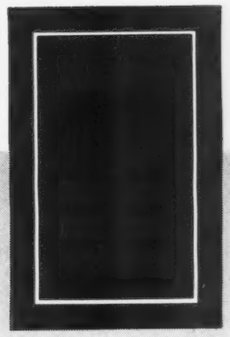
MARCH 1948



Engineer

When you buy a paper cutter... say how

how WELL WILL IT CUT?
how MUCH WILL UPKEEP COST?
how LONG WILL IT PRODUCE EFFICIENTLY?

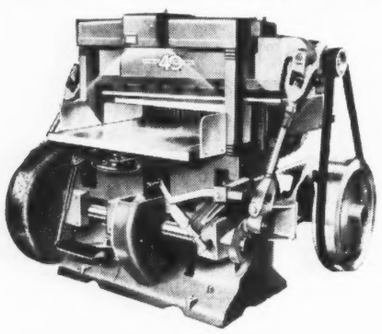
The answers to these three questions are found in the design of the paper cutter for, ultimately, design determines performance.

Seybold, and Seybold design alone, gives you Double-End-Pull, combined with Continuous, Double-Shear knife action. Ask any owner of a Seybold paper cutter how this improves cutter performance . . . produces more accurate cutting, without chatter marks . . . keeps knives sharper longer . . . keeps machines operating at top efficiency for many years.

Don't let confusing smoke signals distract your attention from the main issues of "How well" . . . "How much" . . . and "How long".

Seybold Announces Availability of HEAVY-DUTY 40" Paper Cutters

Seybold offers a limited number of Heavy-Duty 40" Precision Paper Cutters for early delivery — as soon as 4 to 6 weeks in many instances. These machines are now on display at all Seybold district offices. Stop in and see this machine in action today. Find out for yourself why "Double-End-Pull, combined with Continuous Double-Shear knife action" makes such a big difference in paper cutter performance.



G

Harris-Seybold Company
General Offices, Cleveland 5, Ohio
( ) Please send additional information
( ) Please have representative call on me on or about

.....

Name .....
Title .....
Company .....
Address .....

HARRIS-SEYBOLD

General Offices, Cleveland 5, Ohio

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District Offices: New York • Chicago • Cleveland • Atlanta • San Francisco • Toronto, Canada

BREAKING ALL RECORDS!

More Premier Rotary Shavers were sold in the first two months of 1948 than in any comparable period since Sta-Hi introduced this fine, precision machine tool to the Graphic Arts Industry more than twelve years ago.

The reason? . . . Men who have been operating Premiers for years, or who have in recent months installed the new, post-war model, all tell their friends:

"Planning to buy a new flat plate shaving machine? . . . Don't go wrong—get a Premier!"

Owners and operators of Premiers will tell you that this machine does nothing less than a superb job, handling everything from smaller cuts up to a full newspaper page size photo engraving . . . It mills down metals, or wood, to tolerances that seem like splitting hairs.

Let us tell you where you can see a Premier in operation in your vicinity . . . Then just talk to the man who runs it!

STA-HI

● Available soon for commercial plants handling extra large plates—a Premier Rotary Shaver with a working bed size of 24" x 36".

STA-HI CORPORATION ● 1020 CROCKER ST. ● LOS ANGELES 21

A form is only as good as its spacing material

for a *tight* form...

and a *sweet* mix...

duratin

4% tin · 12% antimony · 84% lead

TRADE MARK REG. U. S. PAT. OFFICE

LEADS and SLUGS

THESE are the *quality leaders* in their field. Rolled in continuous strips to obtain a solid body without joints, and then shaved to precise dimensions. They can be cut and mitered in the shop, and used on a non-distribution basis. Made only of refined metal in the standard 4-12-84 machine formula, they will improve the mix in the average melting pot. The standard base height (.759") is stocked at Branch Offices. Packaged three ways:

1

2-ft. Strips in 2, 6, and 12 point put up in cartons of about 10 lbs., and of about 5 lbs. in 1 point.

2

Cut-to-measure in ½-pica lengths from 1 to 9½ picas, and in full-pica lengths from 10 to 36 picas. 12½, 13½, and 26½-pica lengths also available. All put up in 2-lb. units.

3

Labor-saving fonts of about 5 lbs. include assorted lengths ranging from 4 to 25 picas by even picas.

Get in touch with your nearest ATF Branch Office

American Type Founders

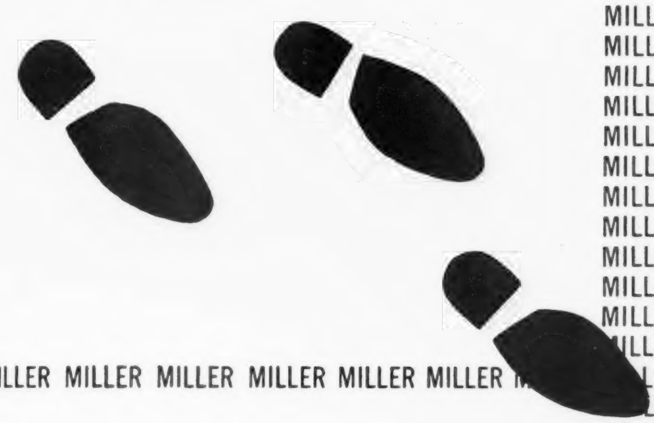
An ATF Associate

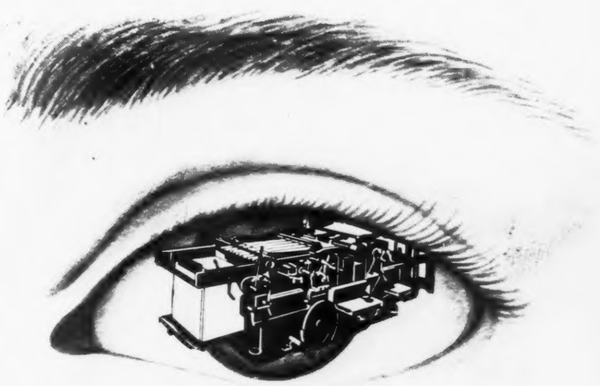
BRANCHES IN PRINCIPAL CITIES

We like Miller Presses because:

They are easy to Operate*

Only 3 steps from feeder to delivery



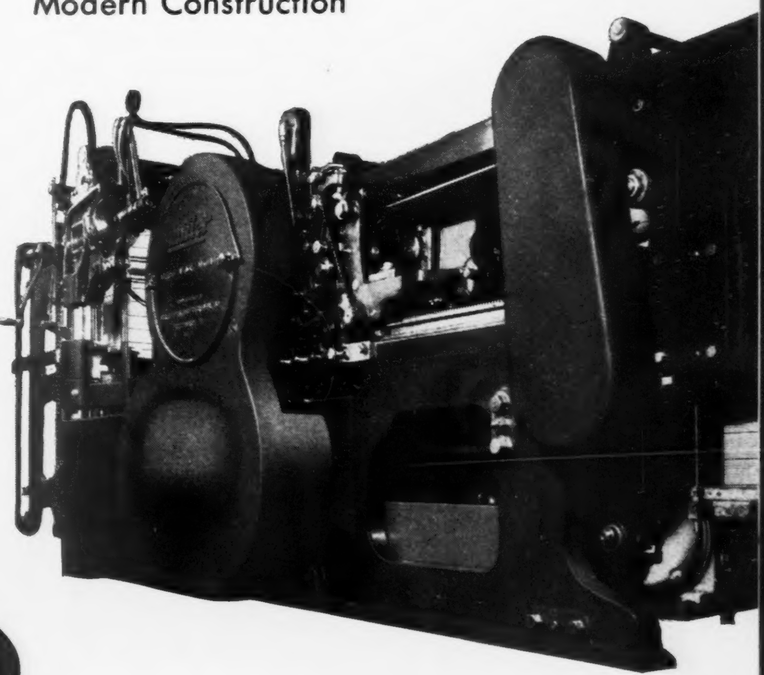


Over-all vision of sheets and press

MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER MILLER

Automatic Oiling of inaccessible parts

Modern Construction



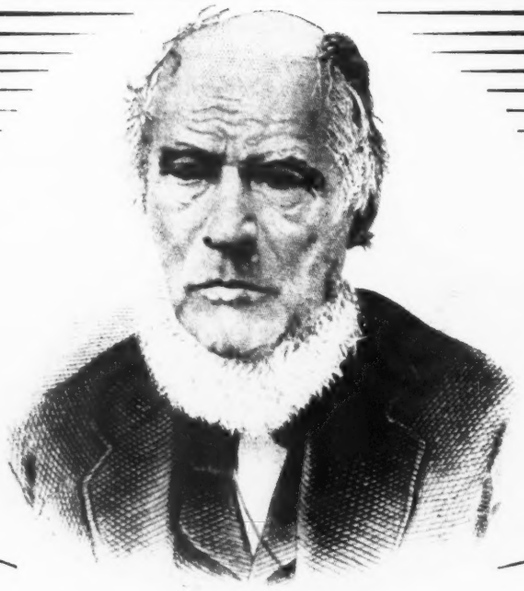
* HERE ARE THE NAMES OF PRESSMEN FROM DIFFERENT SECTIONS OF THE UNITED STATES, WHO AGREE WITH THIS STATEMENT.

James Ballintine, Wm. G. Johnston Co., Pittsburgh
D. A. Barr, E. J. Storm Printing Co., Dallas
O. C. Bisbey, Sr., Angelus Press, Los Angeles
Robt. L. Bloemer, Gibson Art Co., Cincinnati
Bernard Corbin, Thos. D. Murphy Co., Red Oak
Horace S. Garrison, Darby Printing Co., Atlanta
Philip Heidle, Baker, Jones, Hausauer, Inc., Buffalo
Philip Maltin, Publishers Printing Co., Inc., New York
C. G. Morris, Wm. S. Henson, Inc., Dallas
Harry Zinn, Ransdell, Inc., Washington

MAY OUR REPRESENTATIVE FURNISH YOU WITH OTHER NAMES OF PRESSMEN IN YOUR DISTRICT?

MILLER PRINTING MACHINERY CO.

PITTSBURGH, PENNA.



SAM'L BINGHAM

THE FIRST INKING ROLLER MADE IN AMERICA WAS MADE BY SAM'L BINGHAM, FOUNDER OF TODAY'S

SAM'L BINGHAM'S SON MFG. CO.

Until a pressman named Adam Spears, in London in 1804, got his luncheon molasses mixed up with his work, ink was pressed onto type with leather balls. Soon, the iron inking rollers that were holding back the development of the cylinder press, were coated with a mixture of glue and molasses, and modern printing was on its way.

The secret of the glue-and-molasses roller was brought to America by a Presbyterian minister, who imparted his information to Daniel Fanshaw, New York printer for the American Tract and Bible Societies. Mr. Fanshaw called in his foreman, Sam Pike, who entrusted his best pressman, Sam'l Bingham, with the task of fashioning America's first "composition" roller.

Twenty-one years later, in 1847, Sam'l Bingham was the first man to make a business of supplying rollers to the printing trade. Until that time, each pressman had made his own rollers.

Today—a hundred years later—the same practical spirit that guided Sam'l Bingham guides his successors in research work and the careful manufacture of rollers to meet the widely varying needs of modern printers.

SAM'L BINGHAM'S SON MFG. CO.
MANUFACTURERS OF
PRINTERS' ROLLERS
LITHO-OFFSET ROLLERS

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CHICAGO 5	DETROIT 10	KANSAS CITY 6	PITTSBURGH 3
CLEVELAND 14	HOUSTON 6	MINNEAPOLIS 15	ST. LOUIS 2
DALLAS 1	INDIANAPOLIS 2	NASHVILLE 3	SPRINGFIELD, O.

ONE HUNDRED YEARS OF ROLLER MAKING

PRINTING EQUIPMENT *Engineer*

Volume 75 Number 6

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

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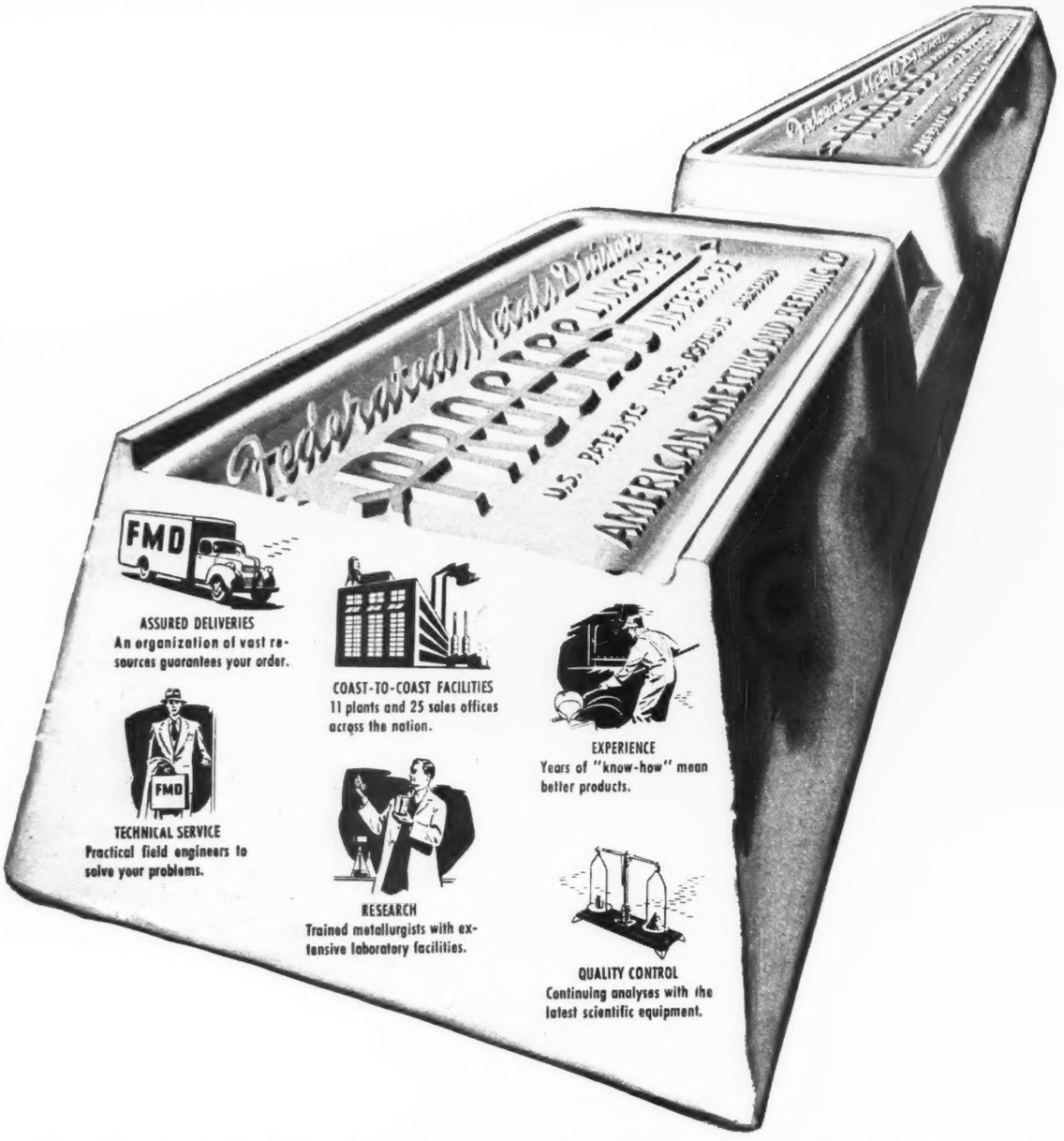
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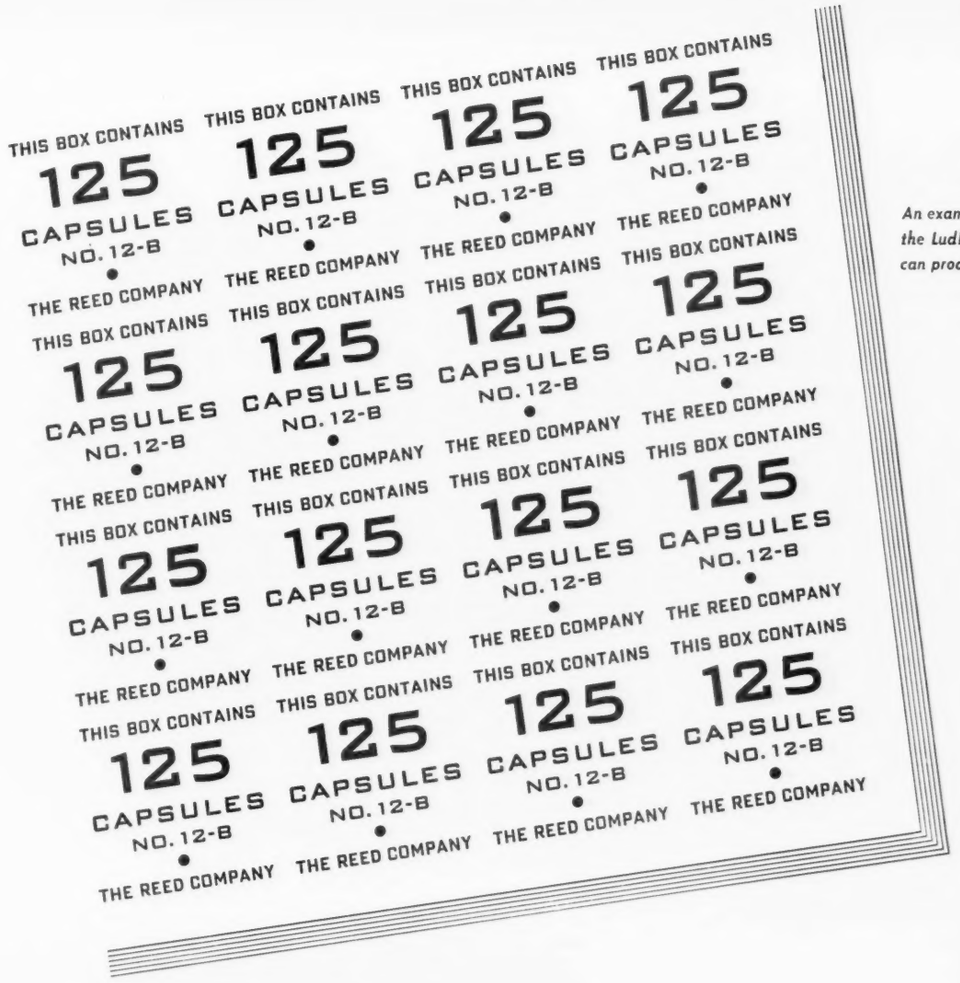

An example of a multiple form which the Ludlow-equipped composing room can produce economically.

LUDLOW

Multiple Forms Will Help You Increase Production

If you handle a job as a single unit, when identical forms could have been set 4-up, 8-up, 16-up or more, you throw away profits that are rightfully yours. A job of labels such as is shown above is repeat-cast 16-up from a single setting of six lines of Ludlow matrices, made up, locked up, and sent to press within a very short time and at a materially lower production cost. Multiple-form composition on the Ludlow enables you to utilize full press capacity and to reduce press running time, as well as to expedite composing room and bindery operations, saving time and money all along the line. Ludlow multiple forms enable you to better handle "rush" work in record time, as many a job can be printed in multiple, cut and delivered before electrotypes are obtainable, avoiding both delays and additional expense. Many other advantages which will help to reduce production expense are enjoyed by Ludlow-equipped plants. Write us today for complete details.

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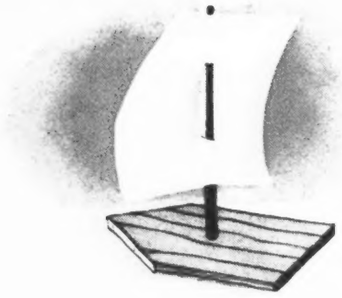

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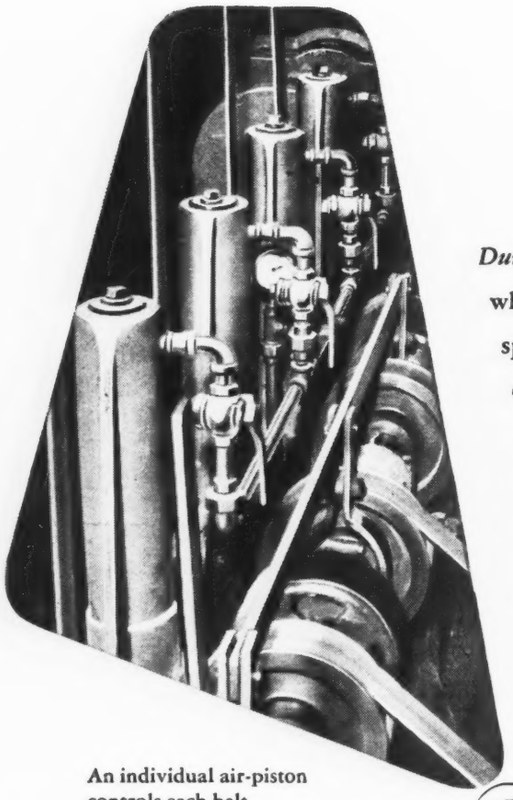
ONLY AIR PRESSURE... *pneumatic* TENSION...

CAN BE SOFT AS A SUMMER BREEZE

OR POWERFUL AS A TORNADO



An individual air-piston controls each belt, responds to each tension variation, even in the roll itself. Simply select the desired tension . . . it remains constant throughout the run.

During the run, a soft cushion of AIR cradles the unwinding web, when Wood *pneumatic* tensions control it. Even when making splices, the air cushion maintains *constant,* uniform tension—compensates instantly for all variations. *Then,* whenever you need to use the Red Button Stop, the full power of air-pressure surges into action automatically, as a positive "brake" on the roll. Easily fitted to all types of reels. Write for brochures, illustrating the complete Wood system of automatic paper-feeding: *Pneumatic* Tensions, Autopasters, Reels. Wood Newspaper Machinery Corporation, Plainfield, New Jersey.

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with fixed belts for newsprint
with running-belts for
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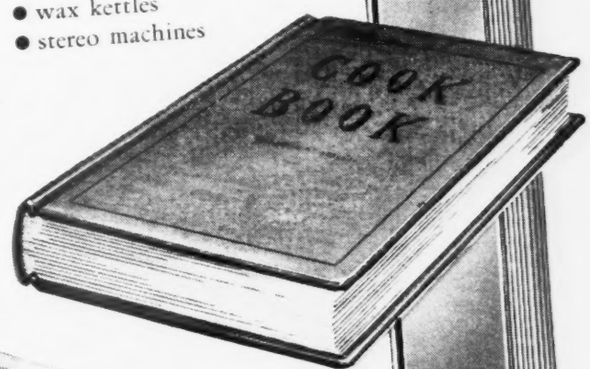

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As a result, The Timken Roller Bearing Company is now able to announce a 25% increase in the load capacity ratings of all Timken bearings—following a careful review of laboratory studies on fatigue life machines over the past ten years, together with close observation of bearing performance in the field.

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Result of Constant Quality Improvement

This 25% increase in Timken bearing capacity ratings is based on continued improvement in the quality of Timken tapered roller bearings over the past 10 years. It is due to a number of factors, including improved alloy steels made in our own Timken steel mill specifically for anti-friction bearings, better metallurgical control in the processing of this steel, more accurate manufacturing equipment, greatly improved surface finishes, and more accurate inspection methods. That these improvements in Timken bearing quality have resulted in 25% greater load capacity has been conclusively demonstrated by years of exhaustive laboratory and field studies!

New Engineering Journal to Give Facts

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For further assistance in the application of Timken bearings, call upon our field engineers or our Engineering Department.

Timken tapered roller bearings take any combination of radial and thrust loads, hold shafts in rigid alignment, assure precision and minimize friction. The 25% increase in load capacity ratings is the *latest* example of Timken leadership in serving the bearing needs of all industry . . . one more reason why it pays to look for the trade-mark "Timken" on every bearing you use. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

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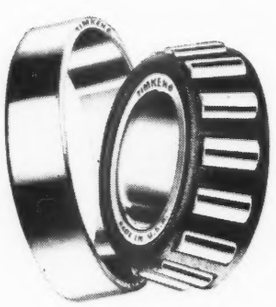

NOT JUST A BALL ○ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ◐ AND THRUST →◐← LOADS OR ANY COMBINATION →✳←

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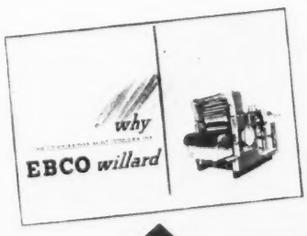

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CHICAGO OFFICE: 400 W. MADISON ST., CHICAGO 6, ILL.

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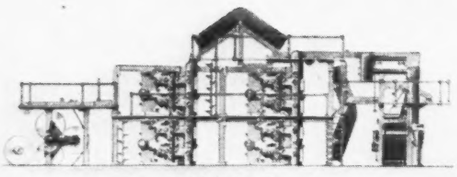
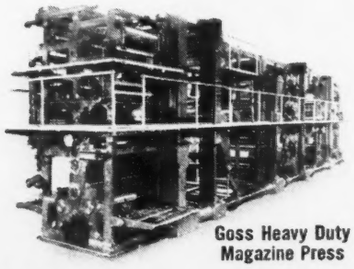
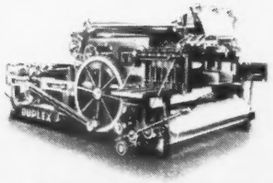


Goss Multi-Color Press

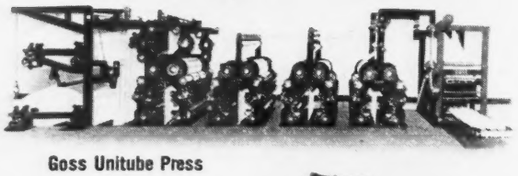


Goss Heavy Duty Magazine Press

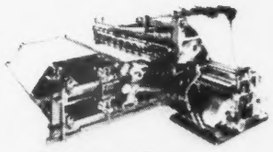


Duplex Model E Flat-Bed Press

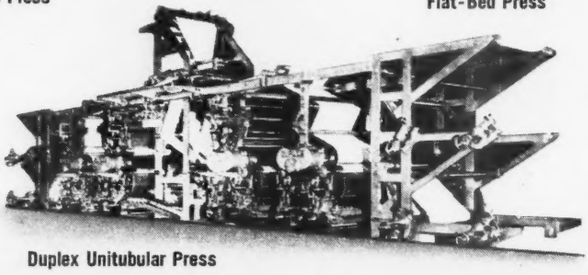
Goss Speedry Rotogravure Press



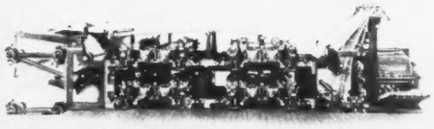
Goss Unitube Press



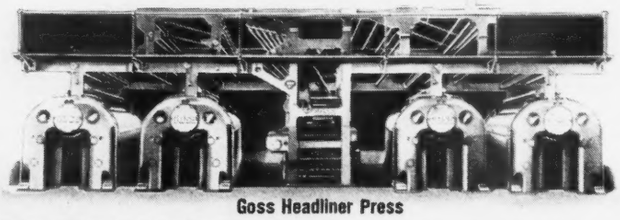
Goss Cox-O-Type Flat-Bed Press



Duplex Unitubular Press



Duplex Standard Tubular Press



Goss Headliner Press

Complete Line of Rotary Presses

•

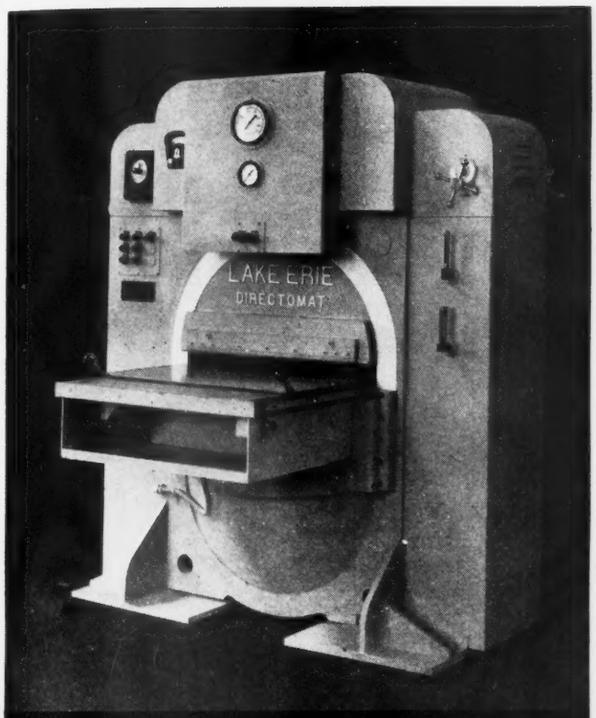
for large, medium and small Newspaper and Magazine Plants

Representing a combined experience of 127 years, this complete line of Goss and Duplex presses covers the requirements of publishers and printers everywhere. From the flatbeds to the heavy duty units, these presses offer the advantages of economical installation, provision for expansion, quality printing, minimum maintenance, and above all—full color facilities. Color-minded engineering has achieved its greatest success in the post-war Goss Headliner which provides unlimited color flexibility. If you publish a newspaper or magazine, there's a Goss-built press to do it . . . and your inquiries are invited.

THE GOSS PRINTING PRESS CO., 1535 S. PAULINA ST., CHICAGO 8

Duplex Division: Battle Creek, Mich. • Goss Printing Press Co., Ltd., Preston, England

NEW YORK LONDON, ENGLAND SAN FRANCISCO



DIRECTOMAT

Leads the way To Higher Quality Reproduction

The DIRECTOMAT eliminates stretch of mats... reduces chance of mat buckle... can produce dry mats with the same shrinkage you now get.

The DIRECTOMAT equipped for double-sided operation has the capacity of two mat rollers... requires the space of only one.

With the DIRECTOMAT all color work and fine half-tone work can be molded and completely dried... without shrinkage... in a single operation.

Higher quality reproduction and more efficient plant operation are the reasons why more leading dailies, syndicate and commercial plants in the United States and Canada are installing DIRECTOMAT equipment now than ever before. If you are interested in improving reproduction quality today... providing for R.O.P. color work tomorrow... write for Bulletin 148.

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Leading manufacturer of hydraulic presses—all sizes and types—stereotyping...plastics molding...processing...rubber vulcanizing ...metal working...forging...metal extrusion...special purpose.

Quick Reference Guide
26 CHRISTENSEN-DEXTER *Basic Machines for...*

FEEDING—CHRISTENSEN CONTINUOUS STREAM FEEDER—For flat bed, rotary and offset presses and varnishing machines where high speed is essential.

DEXTER CONTINUOUS RELOADING CARDBOARD FEEDER—Will feed cardboard up to forty point thickness, to any make flat bed or rotary press, cutter or creaser, and to certain offset presses, in sheet sizes up to the maximum capacity of press.

CHRISTENSEN PILE SUCTION STREAM FEEDER—For flat bed, rotary and offset presses and varnishing machines.

DEXTER CONTINUOUS RELOADING METAL SHEET FEEDER—Feeds sheets 38 to 24 gauge, in sizes 14 x 18" to 36 x 44"—at speeds up to 80 per minute. Provides press operation uninterrupted by stops for reloading.

GATHERING and INSERTING—

CHRISTENSEN STITCHER FEEDER—for inserting and stitching saddle-bound catalogs and periodicals.

MARTIN ROTARY GATHERER, STITCHER AND COVERER—For gathering signatures of books prior to other binding operations; and for gathering, side-stitching and covering magazines.

TRIMMING—BRACKET SAFETY TRIMMER—For label cutting, booklet trimming, singly or in multiple form—and cutting gang work.

FOLDING—CLEVELAND FOLDING MACHINES—For circulars, greeting cards, booklets singly or in gangs, catalogs, publications, etc. *Seven* models covering every bindery requirement and handling sheets from 3 x 4" to 42 x 62".

DEXTER JOBBING FOLDER, DOUBLE SIXTEEN and QUADRUPLE SIXTEEN FOLDERS—For job work and book folding in sheets from 12x16" to44x58".

VARNISHING—CHRISTENSEN VARNISHING MACHINE—For all types of varnishing jobs.

SORTING—DEXTER SORTING MACHINE—For paper mills. Speeds production and eliminates waste motion in coated paper and bond finishing rooms.

BRONZING—CHRISTENSEN HIGH SPEED BRONZER—For all types of sheet bronzing.

Dexter & Christensen Machines

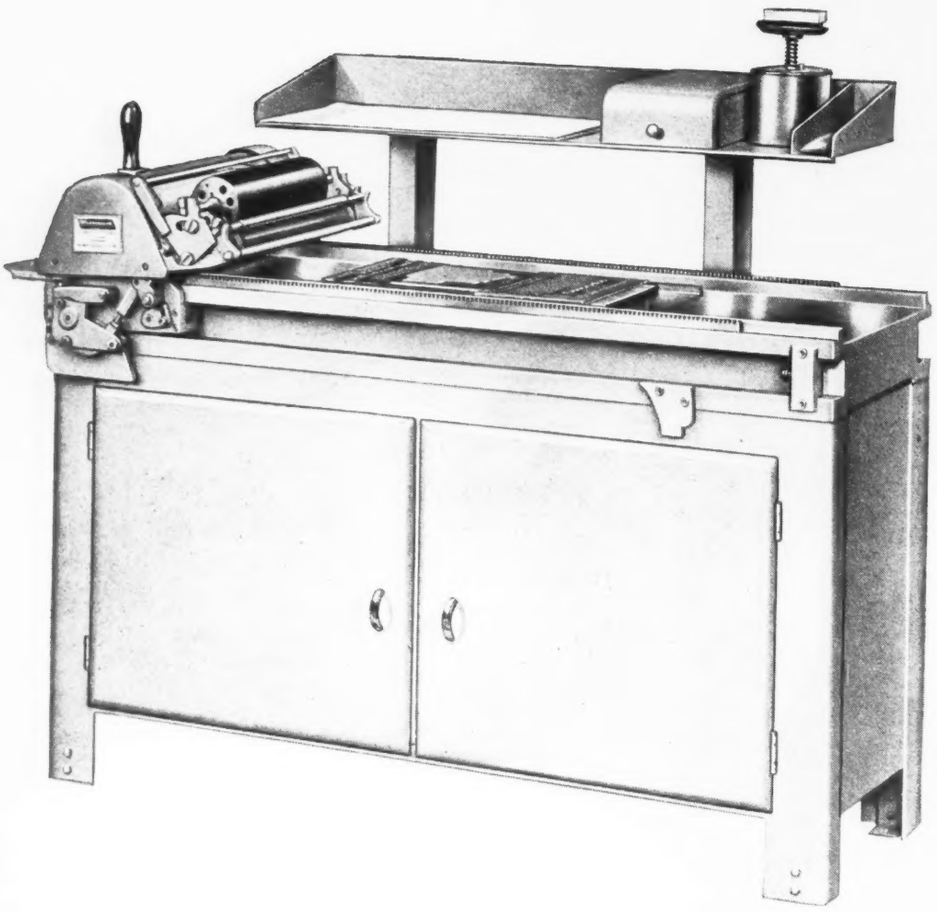
All Dexter and Christensen Products are sold and serviced by

DEXTER FOLDER COMPANY, General Sales Offices
330 West 42nd Street, NEW YORK 18, N. Y.

DEXTER Machines *are built by Dexter Folder Company of Pearl River, N. Y.*

CHRISTENSEN Machines *are built by Christensen Machine Company at Racine, Wisc.*

Low Cost, Compact Proof Press



No. 05 VANDERCOOK
Form size: 14x24 inches

New . . . . . moderately priced general purpose proof press especially suitable for galley proofs of machine composition and made-up pages.

Simple . . . . . no cylinder packing to change and the simple, efficient inking mechanism requires no adjustments whatsoever.

Speedy . . . . . impression cylinder and inking roller trips are entirely automatic. Anyone can quickly produce good proofs at high rate of speed.

Low Upkeep . average life of impression cylinder is five years, and of inking rollers, two years. Both can be quickly changed at small expense.

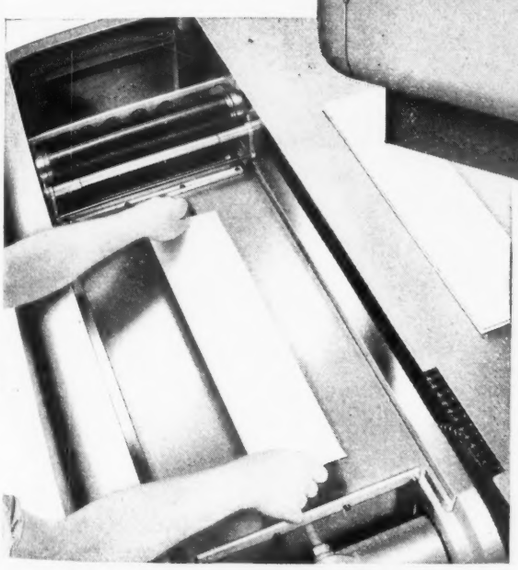
Compact . . . . extra large steel cabinet with ample storage space, convenient shelf for paper, rag bin, cleaning can and ink.

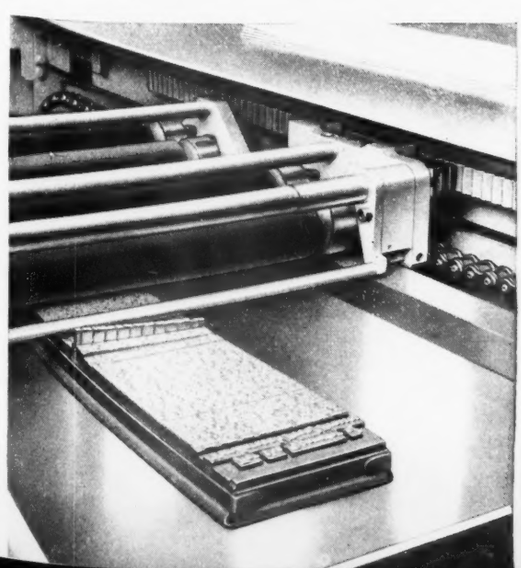
Sold Exclusively by **American Type Founders**
Branches in Principal Cities

An ATF Associate

NO. 23
VANDERCOOK

PROOF
PRESS





A New Vandercook Galley Proof Press With Safety Device to Instantly Stop Machine Upon Contact with any Object Above Type High!

Now in production, this completely redesigned machine will meet the demand of newspapers and printers for a *High Speed* and *Safe Electrically Operated Proof Press,* capable of delivering up to 40 proofs a minute!

The new No. 23 Vandercook *"Safe Electric"* Proof Press has a bed size of 15″ x 26″, and occupies a floor area of 36″ x 57″. Inking mechanism consists of a motor driven Ink Drum, Vibrator and 4 Synthetic Rubber Form Rollers. Two wide hinged doors on the front and back of machine make all driving and operating mechanism readily accessible.

Most remarkable improvement is the new safety device—so sensitive that any obstacle $\frac{1}{16}$″ or more above type high . . . including a slug as shown in the illustration on the left . . . will instantly stop the press. Write for more detailed information.

VANDERCOOK PRE-PRESS EQUIPMENT

VANDERCOOK & SONS, INC.

General Offices—900 North Kilpatrick Avenue • Chicago 51, Illinois

Chicago Display Room—630 South Dearborn Street
Eastern Branch—216 East 45th Street, New York 17, New York
Western Branch—1151 South Broadway, Los Angeles 15, California

SCORCH FAST! CAST FAST!

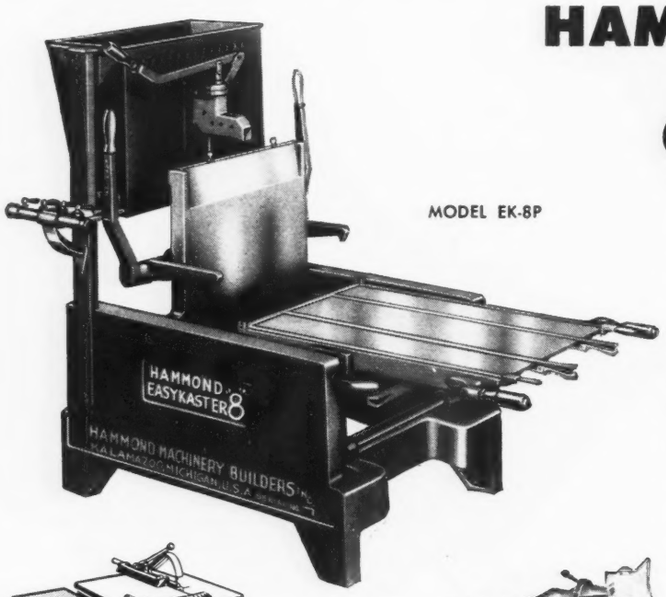
HAMMOND FULL-PAGE *Scorcher*

MODEL T23-30

The Hammond Full-Page Electric Scorcher gives you these advantages:

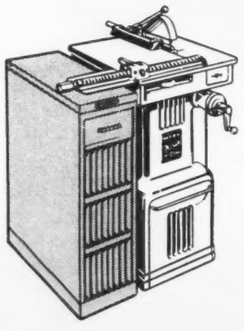
1. Large capacity, 23" x 30", which accommodates any size mat with tail-piece.
2. Maximum moisture elimination with new grilled cover construction.
3. Floating hinges allow stacking of mats and automatically levels the cover.
4. This cover construction assures permanent flatness under heat.
5. Any desired temperature with variable thermostat. Fast heating up time — 20 minutes.
6. Aluminum bed to prevent rust and provide even heat distribution.

HAMMOND *EasyKaster* "8"

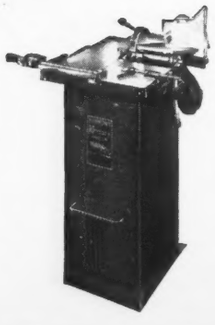


MODEL EK-8P

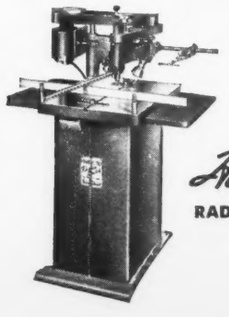
The Hammond Full-Page EasyKaster "8"s large 800 lb. melting pot and efficient gas combustion chamber provides a continuous supply of hot metal. Casts are made as fast as they can be handled. Valve controlled pouring provides any desired rate of metal flow without spilling or splashing. The bed *rolls* into pouring position. Four point spring loaded automatic lock-up insures equal pressure distribution over entire area of beds. Hammond EasyKasters save up to 50% in casting time over older, slower methods.



Hammond
GLIDER
*TRIM*OSAW
WITH NO. 24
STRIP MATERIAL
CABINET



Hammond
MERCURY
*TRIM*OSAW



Hammond
RADIAL ROUTER

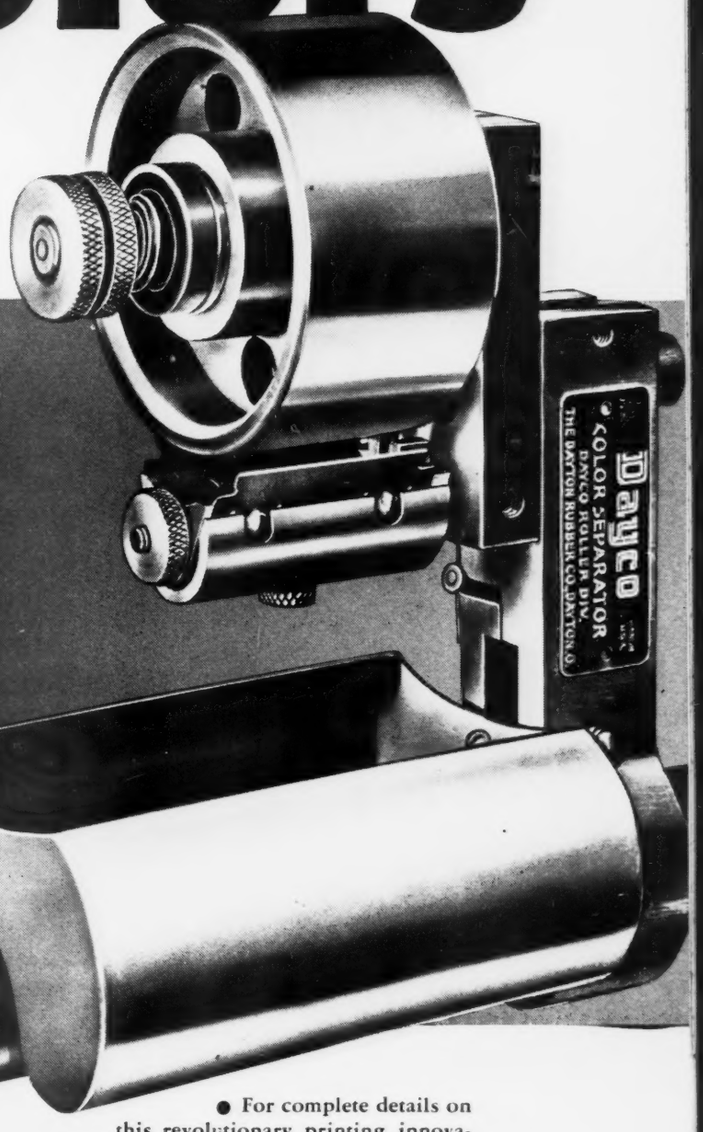
Hammond Machinery Builders INC.

1604 DOUGLAS AVENUE • KALAMAZOO, MICHIGAN

This insert was printed in

six·colors*

...one time through
a two-color press...
and not a roller cut!



THE WORK OF THE AMAZING NEW

dayco

COLOR SEPARATOR

an exclusive, patented product
of Dayton Rubber

- easy to install
- simple to operate
- no roller cutting
- pays for itself
- for all types of rollers
- for all inks

● For complete details on this revolutionary printing innovation, write or call Dayco Roller Division, *Dayton Rubber • Dayton, Ohio*

Dayton Rubber

points the way to easier color in printing

...and MORE!

*excluding black

THE NEW

dayco

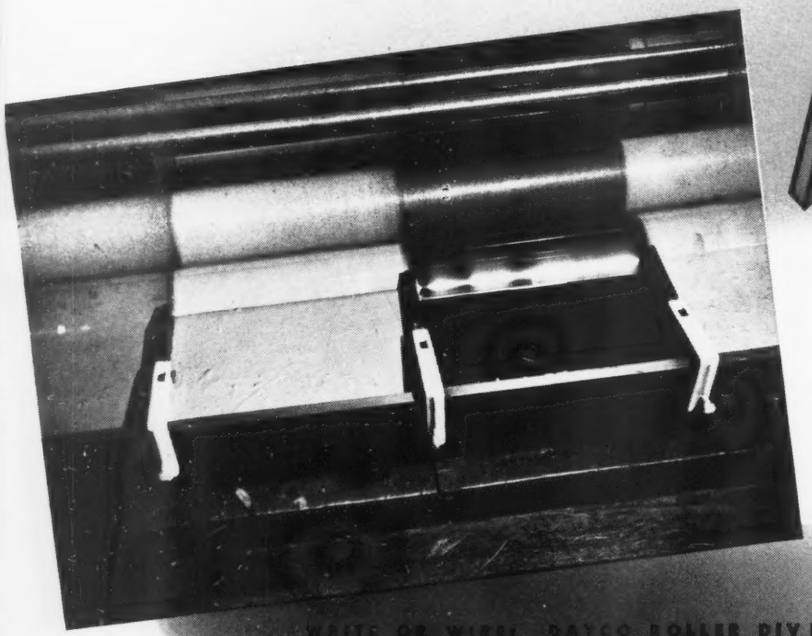
ADJUSTABLE FOUNTAIN DIVIDER

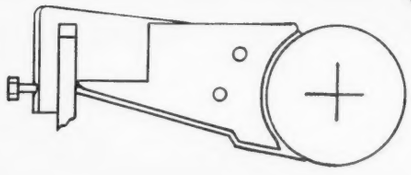
Sure-Fit ... Leak-Proof!

with specially-processed, specially-treated felt insert

- **Minutes to install**
- **adjusted from center**
- **no strain on fountain ratchet**
- **years of service**
- **easily cleaned**
- **guaranteed snug and leak-proof**

Gives full control of the fountain at the divider because the felt filler forms a light cushion with all parts of the fountain and follows the blade to any position.





● For better use of color, get full details on these great new patented products—The Dayco Color Separator and the Dayco Adjustable Fountain Divider!

WRITE OR WIRE! DAYCO ROLLER DIVISION, DAYTON RUBBER—DAYTON, OHIO

Dayton Rubber

points the way to easier color in printing

INSTEAD OF STRADDLING THE FENCE

Imperial doesn't straddle this fence—but concentrates all of its attention and service on the Graphic Arts Industry ONLY. Printing metals are our main products, our ONLY products.

By this specialization, we are able to give you better type metal, thorough attention and lower yearly metal costs. This concentrated attention is the reason for every type metal improvement and worthwhile innovation in the field since our founding 36 years ago. Would you care to learn more about type metal service that **IS** service? Then, just ask Imperial.

IMPERIAL TYPE METAL CO.

Serving the Graphic Arts Industry Only

Philadelphia 34 **New York 7** **Chicago 50**

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Trigger Speed

WITH

MODEL 45

C&G Saw Trimmer

ONE smooth, easy movement, as simple as squeezing the trigger of a .45 caliber automatic, raises or lowers the Model 45 to exactly the height desired for sawing. Accuracy to .001 of an inch is provided by an adjustable knob. Other desirable "45" features include the C&G Positive Work Holder, right and left hand Miter Vise, Chip Chute, Angle Gauge. Write for free circular.

The MORRISON Company

125 W. MELVINA STREET • MILWAUKEE 12, WISCONSIN

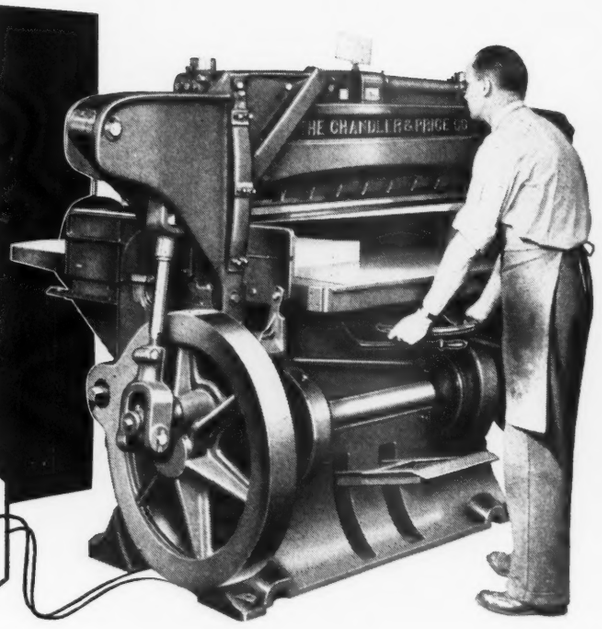
Get these Paper-Cutting Advantages with

CHANDLER & PRICE

AUTOMATIC CUTTERS

39" 44" 50"

Available for Prompt Delivery



Two things are mighty important in the paper cutter you want today—*prompt delivery*, and a cutter with a *reputation for dependable performance and long life.* Chandler & Price automatic cutters give you *both.*

These cutters also provide the four things most wanted in a paper cutter: (1) Accurate Cutting; (2) Speed; (3) Convenient Operation; (4) Freedom from Mechanical Troubles.

1. Accurate Cutting—A solid one-piece casting provides a rigid vibrationless bed . . . no warping or twisting under heavy cuts . . . heavy ribs on the underside prevent springing under heavy cuts . . . knife is *pulled*, not pushed, avoiding knife chatter and providing smooth even cuts. Simultaneous use of both hands is required to start knife stroke. Automatic stop so that cutter absolutely cannot repeat!

The back gauge is always rigid when in locked position; jogging of heavy stock against it cannot make it get "out of square" with the knife.

2. Speed—In paper cutting, speed depends not only on *cutter* speed but also on *control* speed. C&P Automatic Cutters have all three controls—locking lever, back-gauge handwheel, and cutter-starting levers—grouped right in front. Lost motion is eliminated. Operator works freely, easily, and at maximum efficiency. A short quick push on a lever at the operator's left hand releases the back gauge . . . a spin on the ball-bearing handwheel shoots the back gauge along the table to the wanted position. A short pull on the locking lever wedges the back gauge immovably. Overhead measuring tape has big, easy-to-read figures.

3. Convenient Operation—Additional conveniences include: three-part back gauge that can be set to cut three dimensions at a single stroke . . . easily adjusted friction box (controlling binder pressure) located out in the open, with indicator showing pressure applied at all times . . . knife adjustment with a single wrench, drawbar at either side easily turned to raise or lower knife . . . a sliding panel that opens and closes automatically, as the knife ascends and descends, keeps trimmings from packing in the knife-slot.

4. Freedom from Mechanical Troubles—Continuous tests and many years of use have proved that the C&P clutch takes hold smoothly and positively even after thousands of engagements. When wear occurs after long use, a slight movement of a single lever outside the clutch casing restores action to original efficiency . . . brake is self-adjusting to take up its own wear, and further adjustments are made when needed, by turning a single nut . . . all oiling points readily accessible, with oil leads from important bearings brought out in clusters of oil tubes at either side of cutter.

These and many other advantages which will handle your cutting problems for years ahead are fully described in an 8-page booklet which will be supplied upon request. Write us.

THE CHANDLER & PRICE COMPANY

CLEVELAND, OHIO

★ *Manufacturers of Printing Machinery for over 60 Years* ★

✓ NO FLAME

✓ NO WIRING

✓ NO CONTACT

...yet it ends *Static* PROBLEMS!

✓ NO OPERATING EXPENSE

An Entirely New Principle. The Ionotron Static Eliminator® is a brand-new application of a sound scientific principle. It is totally different from old-fashioned static eliminators. There is no hazardous flame. It uses no electric current, so it is shockproof. There is no tinsel to drag over, and sometimes smear, heavy forms.

And . . . there is no Operating Expense. The Ionotron will far outlast the printing equipment to which it is attached. Life of the alpha-ray source in the Ionotron is measured in centuries rather than in years! Only maintenance needed is to keep the bar clean.

The Ionotron Static Eliminator bar contains a source of continuous alpha radiation. This radiation ionizes the air and makes it a good conductor of static. The result: static bleeds off harmlessly over the ionized air to ground.

Ionotrons in Letterpress Printing. Ionotrons minimize choke-ups, and fire hazard due to static. They are a valuable aid in securing even, straight piling at the jogger. They are easily applied.

Gravure Applications. Applied to gravure presses, Ionotron Static Eliminators minimize the hazard of fires started by static. Ionotrons make it possible to use thinner inks. They materially reduce the feathering caused by static.

Who is Using the Ionotron. The Ionotron Static Eliminator is in successful operation on a large number of printing presses. Among the users are Milprint, Incorporated, with plants in Milwaukee, Philadelphia, Los Angeles, San Francisco and Tucson, Doubleday & Company's Country Life Press, Oneida Paper Products Co. Printers everywhere are finding the answer to static problems in the Ionotron.

For Further Details. For more complete information on application of Ionotrons to printing machinery you use or design, fill in and mail the coupon. Manufactured and distributed in Canada and the British Commonwealth by: Eldorado Mining & Refining (1944) Ltd., Ottawa, Ontario, Canada.

U.S. IONOTRON *Static* ELIMINATOR

Dept. M-6, U. S. Radium Corp., 535 Pearl Street, New York 7, N. Y.

( ) Please send me your bulletin describing the Ionotron Static Eliminator.
( ) Attached are details of the static problem(s) I am interested in eliminating.

Name.....

Title.....

Company.....

City..... Zone..... State.....

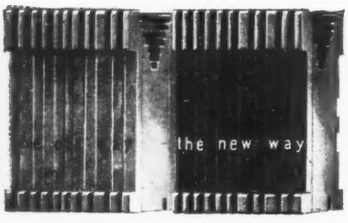
Leading Papers

FROM COAST-TO-COAST USE MATRIX CONTRAST SERVICE

Leading newspapers and other outstanding printing houses everywhere are reducing eyestrain, errors and production costs with simple, inexpensive Matrix Contrast Service. Processed reference marks, available in black-and-white *and* in colors, mean trigger-quick recognition of errors... *before* the lines are cast.

Matrix Contrast Service makes your matrices easy to read, easy to scan for possible errors. The *new* color processing makes spotting wrong fonts a matter of seconds. With fonts processed in different colors, it's a cinch to find a wrong-font letter that has slipped in accidentally.

Write to our nearest office today for the complete story on the use of Matrix Contrast Service.



MATRIX CONTRAST CORPORATION, Empire State Building, New York 1, N. Y. — 326 W. Madison Street, Chicago 6, Ill.—1105 Trenton Street, Los Angeles 15, Calif.—Sole licensees of the Percy L. Hill Matrix Contrast Patent No. 1,796,023, other patent pending. European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E. C. 1.

Matrix Contrast Service

Ward Mayborn insists: "Printers are printers—they're not magicians." He connived with Advertising Manager Hiller and Business Manager J. H. McReynolds to put across the Oakley plan.

Foreman John S. Oakley revamped the composing room layout. With the same floor area, he now gets out 90-104 pages against former average weekly production of 62-70 pages.

Revamped Newspaper Plant Layout Plus $20 Thousand in Equipment Greatly Improves Production

By DR. RUSSELL RAYMOND VOORHEES, Field Editor

"PUT into the hands of the men in the composing room the materials and the equipment needed for their work and give them a shop layout that makes it unnecessary to do a Marathon all day long—only then have you a right to expect an honest day's work from them. After all, printers are printers—they're not magicians."

That is the philosophy of Ward C. Mayborn, who with his son, Frank W. Mayborn took over the ownership and management of the Sherman (Tex.) *Daily Democrat*, some time ago. It is a philosophy that looks plant trouble right square in the eyes and comes up with a solution that solves many a problem with one stroke. What is more to the point it is a solution of plant trouble that pleases the plant owner and also the printer working in the shop.

Before we get into the metamorphosis that Mr. Mayborn sponsored it might be well to look at Mayborn's record and see who this man is. In 1929 he terminated a 25 year service with the Scripps-Howard newspapers. He has also been with Hearst as publisher of the Baltimore *Post*, with the Nashville (Tenn.) *Banner* and also the *Tennessean* as manager, and from 1941 to 45 with the Chicago *Sun* as assistant publisher. In 1945 he and his son bought the Sherman *Democrat*.

When the *Democrat* was taken over it was just an average small city daily. The office was a jumble of little offices separated by partitions that somewhat resembled one of those mirror joints at a carnival where people pay to go in and get lost. The composing room wasn't any better. There wasn't any too much material with which to work and equipment was so badly arranged that the printers had to be, first, good hoofers and secondly, good printers to take the punishment handed out to them every day. The maximum paper put out in those days was a 16 pager. When one of the maximums rolled off the press everybody felt the age of miracles had returned. At the end of a work day each printer limped out of the shop as if there was some lead in his anatomy.

That was the condition of affairs when the Mayborns took over. From the beginning of their ownership it was apparent that this condition of affairs was not to be continued. While Sherman, Texas, is considerably smaller than Baltimore and Chicago where Mayborn had hit the ball and made good it didn't follow that he would diminish in stature to a Sherman size. On the contrary, he was determined to pull Sherman up to his stature with a bigger and better daily newspaper. To do this, he started with the plant.

"John," Mayborn said to his shop foreman, John S. Oakley, "this paper and plant don't suit me. I want to put out a better and a bigger paper. But to do that we must get in some new equipment and we must have a better shop layout. Make a thorough study of the plant, both as to material and equipment needed and also as to physical layout. When you have determined what we need come down and we'll have a talk."

With that injunction, Mr. Oakley went to work. He was well fitted for the survey job because he had done similar work in several other publication plants.

In between times while the plant continued to put out the same size paper, Mr. Oakley went over the plant with a fine tooth comb. He surveyed the floor space available, the equipment that was in the plant and the material that was there. Then he began checking up, filling in the missing material and equipment items. In not too long a time he had brass tack figures for his talk with Mr. Mayborn.

"Mr. Mayborn," began Mr. Oakley, "I have gone over everything and figure that we will have to spend $20,000. With that amount we can add the badly needed equipment and supplies and make a new shop layout, even to installing a new lighting system. Here is a list I figure we should have."

Mr. Mayborn took the list and studied it with his critically trained eye for a short time.

"All right, Oakley, let's go," Mr. Mayborn told him.

Next Mr. Mayborn sent for his advertising manager, Hal C. Hiller.

"Hal," said Mr. Mayborn, "I want a bigger and better paper put out from this plant. To do that we must have some changes in the shop, addition of material and equipment and a revamped layout. I've talked to Oakley about it and he has a workable plan all laid out. It will mean spending about $20,000. Here's where you come in—get the business so we can get the money."

Mr. Mayborn smiled with that well known smile of his.

"All right, sir, I will," replied Mr. Hiller.

Next Mr. Mayborn sent for J. H. McReynolds, the business manager. Mr. Mayborn told him the same story.

"It will mean spending about $20,000. I've talked with Hal and he says he will get the business. Here's where you come in. Get the money so we can put this over."

"You can count on that, Mr. Mayborn," Mr. McReynolds assured Mayborn.

The rebirth and revamping of the Sherman (Tex.) *Daily Democrat* was on with a bang.

It wasn't all done over night or over a couple of week ends. The deal was spread over a year but at the end of 12 months the Oakley plan had been carried out with remarkable results. There were several very good reasons for taking a

Before and After Layout Diagrams on Opposite Page—At left is shown the composing room equipment layout and workflow diagram in plant of the Sherman (Tex.) *Daily Democrat* before being laid out for better workflow. Sufficient new equipment was purchased, and together with improved equipment arrangement, the work now flows more directly to ultimate destination. A considerable saving in floor space eliminates interference and waste motion in certain spots in the room, as will be seen by examining the new layout in the right-hand diagram.

year to do the job. In the first place, the plant must continue to put out its daily issue, often under difficulties. In the second place, it was not possible to go into the market and pick up anything that might be wanted. Material and equipment were not to be found on counters crying for buyers. And in the third place, the revamping of the shop which included the installation of new lights, couldn't be done until men doing those jobs could get on the job. But every month as improvements were made past difficulties were lessened. It became an emotionally tickling experience to see a new and better plant emerge from the plant that used to be.

At the end of the year, with all additions and improvements completed, a checkup was made of the plant with some startling results. The maximum under the old regime had been a 16 page paper and that only with much groaning. Under the new regime and with the revamped plant the maximum shot up to a 24 page paper put out without the groaning. In the old days the weekly average had been from 62 to 70 pages while at the end of the year of improving the average was 90 to 104 pages. After adding some new equipment and without discarding any old equipment it was found that free floor space in the composing room had been increased greatly over what it had been in the old days before the revamping was done. This was accomplished by more scientific and economical location of equipment. This increase in free floor space gave the printers just that much more space in which to move and eliminated the need for playing leap frog in order to get from one place to another.

And what of the personnel? Just as startling. The only addition to the number of employees were two part-timers, one Linotype operator who works two full days and one proofreader who works three full days. With this limited addition to the working staff, the increased size paper was put out. What is more to the point, however, is that the larger size paper is put out with far less effort than was the case with the smaller paper in the old days. The daily marathon, always a most tiring thing, had been eliminated. The men have been given an opportunity to be printers instead of floor walkers.

The basis of the whole deal was a revamped shop layout devised by Mr. Oakley. This revamped shop layout provided ample space for the different operations of composition and makeup and made handily available the necessaries with which to do the jobs. For instance, there is the ad alley which is under the direction of J. V. Cradick ad foreman. The ad alley is situated in one corner of the composing room and all materials are located within a few feet. There is a storage cabinet for metal base within arm length of two ad frames extending at right angles to the cabinet. Each of these two ad frames accommodates two men with sufficient width between the two frames so that both men may move about freely. Running in a straight line from the one frame against the wall there is a Hammond Glider Trim-O-Saw, strip material storage rack, a Rouse Vertical Miterer and a Miller Bench Saw. Opposite this and running in a straight line from the other ad make up table are three Ludlow matrix cabinets and the Ludlow caster.

In a straight line with this ad alley and also against the left side wall shown in the accompanying diagrams, is the classified makeup section. Some changes were made here. Double-face single column steel rules were installed for the classified ad pages. Under the revamped plan the paper went on a non distribution basis so that by using steel rules and a magnet it is easy to pull out the cutoff rules, leaving the rest of the matter on the galley to be dumped into the metal truck. And by using double faced classified cutoff rule the makeup was speeded up because either side down is OK. By having the classified ad make up to one side of the room there is no interference with the makeup of the rest of the paper. The classified ad pages are made up on regular trucks instead of on makeup tables.

In the old days there were 16 trucks. No new ones were added in the revamping of the shop. A page form storage cabinet was added. This storage cabinet is made with sliding shelves which take a full page form locked in its chase. Cleats inside the cabinet provide storage space for 13 pages and by utilizing the top of the cabinet 14 pages can be stored. Thus with the 16 trucks, a total of 30 full-page forms can be taken care of without thinking about tearing down a form.

This full page form storage cabinet is made so that a truck can be wheeled up to it and the page form on the truck slid off the truck onto one of the slides placed on the top of the cabinet. This slide, with the page form on it can be lifted from the top by two men to a position within the cabinet.

The addition of the storage cabinet and an 8 ft. make up table reduces the number of trucks needed to a maximum of 10 thus creating more floor space.

The Linotype section is located in the opposite end of the composing room from the ad alley and consists of 4 machines, an additional machine was added and order placed for a head and ad machine which will make a battery of six machines. In the old days there were 30 dash matrices on only one machine which often resulted in delays when additional supplies of these 30-dash slugs were needed. The revamping program included the purchase of 30 dash matrices for all Linotype machines so that now they can be cast on whichever machine is not setting other matter. In addition new matrix fonts were purchased for all machines.

The news proof press and proofreading section is located between the Linotype section and the double line of page makeup trucks thus bringing operations into the well known straight line. Immediately adjacent to the proofreading section there is a pneumatic tube from downstairs which brings up the news copy.

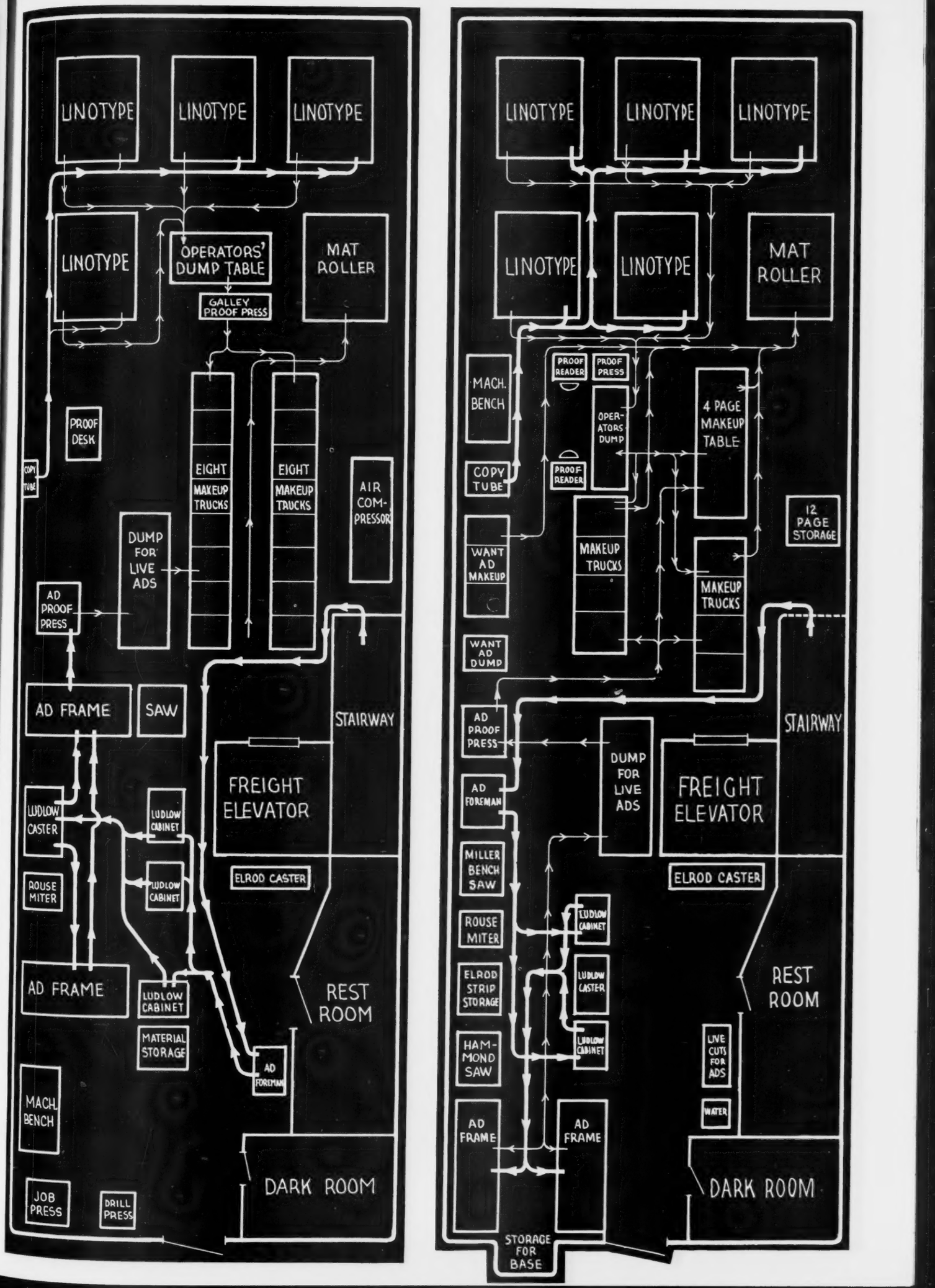
Believing that proper lighting is essential for efficient work, lighting engineers were called in to take readings and make a study of the light that would produce the best working conditions. Flourescent lighting was then installed. In this way, every part of the revamped composing room is provided with the right kind of light and in the proper amount for efficient work.

An intercommunication system was installed with speakers in the composing room and one downstairs at the editorial desk. One of the two units in the composing room is at one side between the ad alley and the classified page section, with the other in the page makeup section. It is easy to communicate between the editorial desk downstairs and the makeup section.

Under the new regime, the non-distribution system was installed, everything being dumped except 36 pt. Elrod base and, as mentioned, the steel cutoff rules used in the classified ad pages. This has

GRAPHIC ARTS EXPOSITION CHICAGO 1950

The next Graphic Arts Exposition will be held in Chicago, Sept. 24 to Oct. 7, 1950, it has been decided by the board of directors of National Graphic Arts Expositions, Inc., according to President A. E. Giegengack. The exposition will be held in Chicago's new International Amphitheatre. It is expected that various Graphic Arts trade associations will plan their annual conventions for that year to coincide with the two Exposition weeks.


LINOTYPE
LINOTYPE
LINOTYPE
LINOTYPE
OPERATORS' DUMP TABLE
MAT ROLLER
GALLEY PROOF PRESS
PROOF DESK
COPY TUBE
EIGHT MAKEUP TRUCKS
EIGHT MAKEUP TRUCKS
AIR COM-PRESSOR
DUMP FOR LIVE ADS
AD PROOF PRESS
AD FRAME
SAW
STAIRWAY
FREIGHT ELEVATOR
LUDLOW CASTER
LUDLOW CABINET
ROUSE MITER
LUDLOW CABINET
ELROD CASTER
AD FRAME
LUDLOW CABINET
REST ROOM
MATERIAL STORAGE
AD FOREMAN
MACH. BENCH
JOB PRESS
DRILL PRESS
DARK ROOM
LINOTYPE
LINOTYPE
LINOTYPE
LINOTYPE
LINOTYPE
MAT ROLLER
MACH. BENCH
PROOF READER
PROOF PRESS
OPER-ATORS DUMP
4 PAGE MAKEUP TABLE
COPY TUBE
PROOF READER
12 PAGE STORAGE
WANT AD MAKEUP
MAKEUP TRUCKS
MAKEUP TRUCKS
WANT AD DUMP
AD PROOF PRESS
STAIRWAY
DUMP FOR LIVE ADS
FREIGHT ELEVATOR
AD FOREMAN
MILLER BENCH SAW
ELROD CASTER
ROUSE MITER
LUDLOW CABINET
ELROD STRIP STORAGE
LUDLOW CASTER
REST ROOM
HAM-MOND SAW
LUDLOW CABINET
LIVE CUTS FOR ADS
WATER
AD FRAME
AD FRAME
DARK ROOM
STORAGE FOR BASE

effected a material saving in distribution time and also resulted in a marked improvement in the appearance of the paper.

A quantity of extra galleys was purchased so there is no longer any waiting for a galley. This is a little thing but it is the little things that waste a lot of time. Other new equipment that was added consists of a proofreader's desk, one new Linotype, one 8 ft. makeup table, the Hammond saw in the ad alley, a stereotype plate shaver and a scorcher for stereotype mats.

Another saving that has been effected is in the newsprint, a tight proposition these days. The paper formerly was printed on 34 in. paper but now it is being printed on 33½ in. paper. This saving of a half-inch in width amounts to a sizable sum in the course of a year.

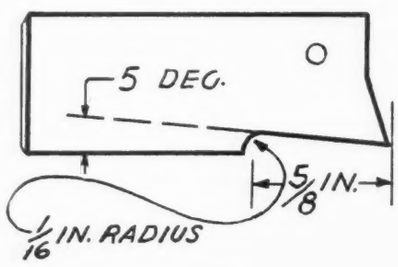
While all of this was going on in the composing room there were also some activities downstairs in the business and editorial offices. In the old days, the downstairs office was divided by numerous partitions so that almost everybody had his own little private cubicle. As a result, the 20 people employed in the advertising, business and editorial departments just about took up all of the space. Mr. Mayborn had all of the partitions removed and departmentized the space with the result that a total of 40 people now use the same space. Revamping the composing room and offices has enabled the Mayborns to get out a larger paper with less effort, so much larger in fact that 40 people are needed in the offices where only 20 were used before.

Yes, Advertising Manager Hiller got the ads and is still getting them in volume. And Business Manager McReynolds got the money, too, and is still getting it, all of which means that the plan worked out by Foreman Oakley went over with a bang. The Mayborns are happy because they have a real newspaper property now. And upstairs in the composing room all hands are happy because the drudgery in getting out the daily has been eliminated.

Slightly Modified Dog Provides Pawl Clearance

(This article prepared by H. George Gilbertson, Chief Machinist, Flint (Mich.) *Daily Journal*, from material supplied by an instructor of the School for Machinists' Apprentices operated by the Typesetting Machinists' Society of Chicago.)

ON line-composing machines, the vise automatic stop mold disk dog may be slightly modified as shown in the accompanying diagram. The purpose of the modification is to provide clearance back of the striking edge of the dog for the stop rod pawl when the dog is advanced as the mold pushes the dog forward when the first elevator is seated upon the vise cap. In this way, the striking edge of the dog passes over the



stop rod pawl without rubbing or rounding off the edge of the pawl with which it comes in contact during normal operation as the mold disk advances the dog and the first elevator seats properly upon the vise cap, at which time the stop rod is depressed to clear the pawl from in front of the advancing dog.

It is claimed by machinists using the modified dog that a closer adjustment between dog and pawl can be obtained and both retain their edges a much longer period of time without rounding off.

From the striking edge the body of the dog is ground back a distance of 5/8 in. at an angle of about 5 deg. and having a radius of not more than 1/16 in. in the corner as shown in the accompanying diagram. If the edge is rounded, sharpening is usually done by hand on a medium grade carborundum stone.

A word of caution is always in order when discussing the vise automatic, its maintenance and adjustment. At all times keep the driving shaft friction clutch leather buffers clean and free from tack; keep clean the inside rim of the friction pulley against which the buffers work. If the buffer faces or the rim are tacky, greater force will be exerted by the dog against the stop rod pawl before the machine can be stopped in case of an overset matrix line. This extra force may chip the striking edges of the dog or pawl, or both, thus making ineffective the function of these parts. Check the spacing between clutch collar and machine frame to see that it is maintained very close to 15/32 in. Any variation here directly affects the space between dog and pawl.

Flint Discusses ANPA Research

C. M. FLINT, Director of Research for the ANPA Mechanical Research program, spoke briefly at the recent Great Lakes Newspaper Mechanical Conference in Grand Rapids, Mich. He stated that before conducting a research program it must first be determined what is wrong with present methods. It will be an objective of the ANPA Research activity to debunk the idea that research consists of finding new ways of doing things so as to overthrow present methods suddenly.

Fundamentally, research consists mostly of hard work and intense application. Physics and chemistry enter predominantly into newspaper printing research. The director stated he likes to look at research as insurance for the newspaper against competition.

Roughly, the ANPA Research program may be divided into four divisions:

(1) It may be based on the conception that the present method of printing is all wrong. However, there will not be a radical change for a long time to come in the way newspapers are printed now.

(2) Through applied research, a detailed study can be made of present techniques and processes. For instance, one of the objectives will be to look into the fundamental ingredients of newsprint and ink. It is intended to correlate changes in ink with changes in paper in the future. At the present time, however, the manufacturers may be too busy to initiate this type of research work. Their cooperation, however, is desired.

(3) Another phase of research is a technical service program. In this type of program new developments in the industry will be evaluated by telling member companies about the capabilities of new equipment and its apparent deficiencies.

(4) It is intended to keep members current on technical literature—both foreign and domestic. The ANPA Research organization will cooperate with the already established Printing and Allied Trades Research Association (PATRA) in London, Eng.

Metal Blocks for Knife Stop

THE cornering machine in the Kurzenknabe Press, Harrisburg, Pa., came with wooden blocks to provide a stop for the knife. With use it was found that the wooden blocks split. Some experimentation was done and it was found that a duplicate block made of linotype metal was satisfactory. So a wooden form was made in which blocks of the dimension of the wood step blocks could be cast.

The metal is soft enough so that no harm is done to the knife. After a block gets cut up a bit a file can be run over it a few times to dress the surface. After a time the metal blocks must, of course, be replaced by new blocks but in this shop these metal blocks have been used for months and months without replacing or even redressing.

Fairchild Direct Photo-Electric Engraving Machine — The first public showing of the Fairchild Electronic Photo-Engraver occurred just recently in the plant of the *Bergen Evening Record,* Hackensack, N. J. Here the visitors saw 1 col. 65 line screen engravings made in 3:40 min., automatically on plastic material by one man without chemicals, cameras or other equipment.

The direct engraver is an outgrowth of an idea by Walter Howey, Hearst editor. His idea was that by scanning a photo print by means of a photo-electric cell, the oscillation of a V-pointed stylus might be controlled so that when the scanning unit was looking at light and dark areas it would cut more or less deeply into the metal according to tone value. Before the perfection of Mr. Howey's invention, George Washington, jr., developed a device for accomplishing the same thing in plastic by a single operation. The basic idea being the same as Howey's, Fairchild acquired patent rights to both machines.

Vital parts of the machine include an electric eye, a microscope, and a red hot needle that stabs a sheet of plastic at 350 jabs per sec. Cropped to size, the photo is placed on a cylinder revolving beneath the electric eye which scans the picture, transforming light and dark values into impulses that control the stylus. Depth of the stylus' jabs into the plastic, which is held on another revolving cylinder, is regulated by the operator of the machine, who uses the microscope to make adjustments according to the tonal quality of the picture.

The machine produces a 65 line halftone on plastic which in turn is mounted with adhesive on a metal base and then is locked in the page form, which in this case is ready to be molded from by the stereotyping process in the regular manner.

1. George Washington, jr's. right hand rests on the engraving apparatus which contains the stylus. Right of center is the electric eye which moves across the revolving cylinder holding the picture. At left, is microscope for adjusting stylus.

2. This is a picture of the locked page 1 form of the *Bergen Evening Record*, Hackensack, N. J., containing two of the engravings made on the Electronic Photo-Engraver.

3. NEA News Editor Sumner Ahlbum (left) peers into the engraver's microscope as Fairchild's service technician, Cornelius O'Brien (right) explains the photo-electric engraver.

4. At center, Inventor George Washington, jr., examines product of the electronic photo-engraver. Looking on are Dudley Hollister (left) Fairchild executive, and Donald G. Borg, (right) editor of the *Record*.

Hall Printing Co. Solves the Smoke Problem

By WILLIAM HELME*

**The Peoples Gas Light and Coke Co., Chicago*

SITUATED within a radius of 500 miles of Chicago are more than a third of the nation's readers and 39 per cent of the country's manufacturing concerns. Some of the largest commercial printing plants as well as hundreds of smaller ones with fine skills and equipment to meet every conceivable requirement are located here.

The plant of the W. F. Hall Printing Co. spreads out over a good size area on the northwest side of Chicago. It works around the clock getting out catalogs for mail order houses, the latest editions of the famous Pocket Books, *Coronet* and *Esquire* magazines, *Parent's Magazine*, *Photoplay*, certain colored sections of *Life* magazine, and many other publications.

To meet the ever-present deadline the demand in the printing business has always been for speed and more speed. With the development of high-speed ink drying in which the blue gas flame has played an important part, the problem of accelerating the presses, thus increasing the production, has been partially solved. New developments and methods are always being tried, however, to attain more speed.

But high-speed ink drying has created another problem—and that is the smoke nuisance. The heat is generated by the gas burners drying the ink on the fast moving web and it is the coating on the paper which causes the smoke. The heavier the paper, the more smoke is belched forth into the exhaust ducts and especially is this true when a four-color job is going through the press. When vented out through the roof stacks, the heavy white smoke has a pungent odor and the density of the fumes causes them to cling close to the ground, which is undesirable in the neighborhood, particularly on a still day.

The smoke might also be the direct cause of fire in the ducts. Such a fire would be allowed to burn itself out. This would not only cause an unusually heavy smoke to pour forth from the stacks but would necessitate the shutting down of the press or presses involved. This in turn, of course, seriously interferes with the production schedule. It usually takes between 8 and 15 min. for a duct fire to burn itself out and the press would be down for about 30 min. or longer.

Now this smoke problem coupled with the attendant possible duct fires is not only prevalent in the large Chicago printing plants but is present in every large printing establishment in the country where high-speed ink drying is being employed on heavy coated slick paper, the type usually used by many magazines.

The W. F. Hall Printing Co., located as it is in an area that contains some residential sections, has been civic minded in combatting this problem. Officials of the company estimate that more than $100,000 has been spent on the project. Research and development work accomplished by company engineers with the assistance of outside consultants has been going on for the past two years. Trips have been made to various sections of the country to ascertain if possible what other big printing plants were doing to lick the problem. But no one seemed to know the answer and it was necessary for Hall to start from scratch.

Smoke, as everyone knows, is the result of incomplete or partial burning of combustible material. So the first step in eliminating the smoke was to try and burn it by means of gas smoke burners at the stacks. This was only partially successful, for while it eliminated the smoke nuisance in the neighborhood to a certain degree, it did not prevent the possibility of troublesome and time-consuming fires in the ducts.

Without disclosing the details of burner design and intricate baffling in the ducts, which would hardly be fair to the W. F. Hall Printing Co., considering the thousands of dollars spent in research and time consumed over a two-year period, it may be briefly stated that the problem has been solved by installing gas burners in the ducts at each press. This immediately put a stop to the duct fires and while it does not entirely eliminate all the smoke coming out of the stacks, the smoke instead of settling on the ground, how comes out as a thin vapor and seems to float in the air and drift away to nothingness. It is definitely no longer a nuisance to the neighborhood.

Since the smoke burners have been installed, duct temperatures are considerably higher than they were before and it has been found advisable to insulate the ducts to keep the temperature down in the pressroom. The burner section of the ducts is made of stainless steel and the balance of black iron. Six presses have now been completely equipped with smoke burners and plans are being made to provide similar equipment for 40 presses as soon as it is available. Oddly enough, it takes about as much gas to consume the smoke in the ducts as it does to supply the heat to dry the ink that creates the problem.

The W. H. Hall Printing Co. has received some well-deserved praise from Frank A. Chambers, Chicago's Chief Smoke Inspector, and favorable comment in the local press for its unceasing efforts in trying to eliminate this troublesome smoke nuisance.

Cleaner Perforating Job

FOR a cleaner perforating rule job a piece of thin brass rule fastened to the tympan paper serves excellently. However, a piece of brass rule fastened to the tympan paper presents a feeding problem because even the slight thickness of the brass extending above the surface of the tympan paper may catch the stock as it is fed into the press.

J. N. Schenck, of the Schenck Printery, Hornell, N. Y., in preparing to do a perforating job on one of his jobbers, first lays the piece of brass on the tympan paper in the place the perforating rule will contact the tympan. Then he marks the tympan paper on either side and end of the brass rule. Removing the brass rule, he cuts away the tympan paper so that the rule will fit down into the tympan and be level with it. However, in cutting away the tympan paper he cuts to within ½ in. of either end. By doing this he can slide both ends of the brass under the tympan paper which holds it in place.

In order to make feeding easier, Mr. Schenck then fastens a piece of Scotch tape over the entire piece of brass to an inch or more beyond the end of the brass rule. A width of Scotch tape is used that will completely cover the brass and extend beyond each side sufficiently to give a good sticking surface its entire length. This makes the surface of the tympan paper smooth with nothing to catch the stock as it is fed into place.

ITCA Eastern District Meet

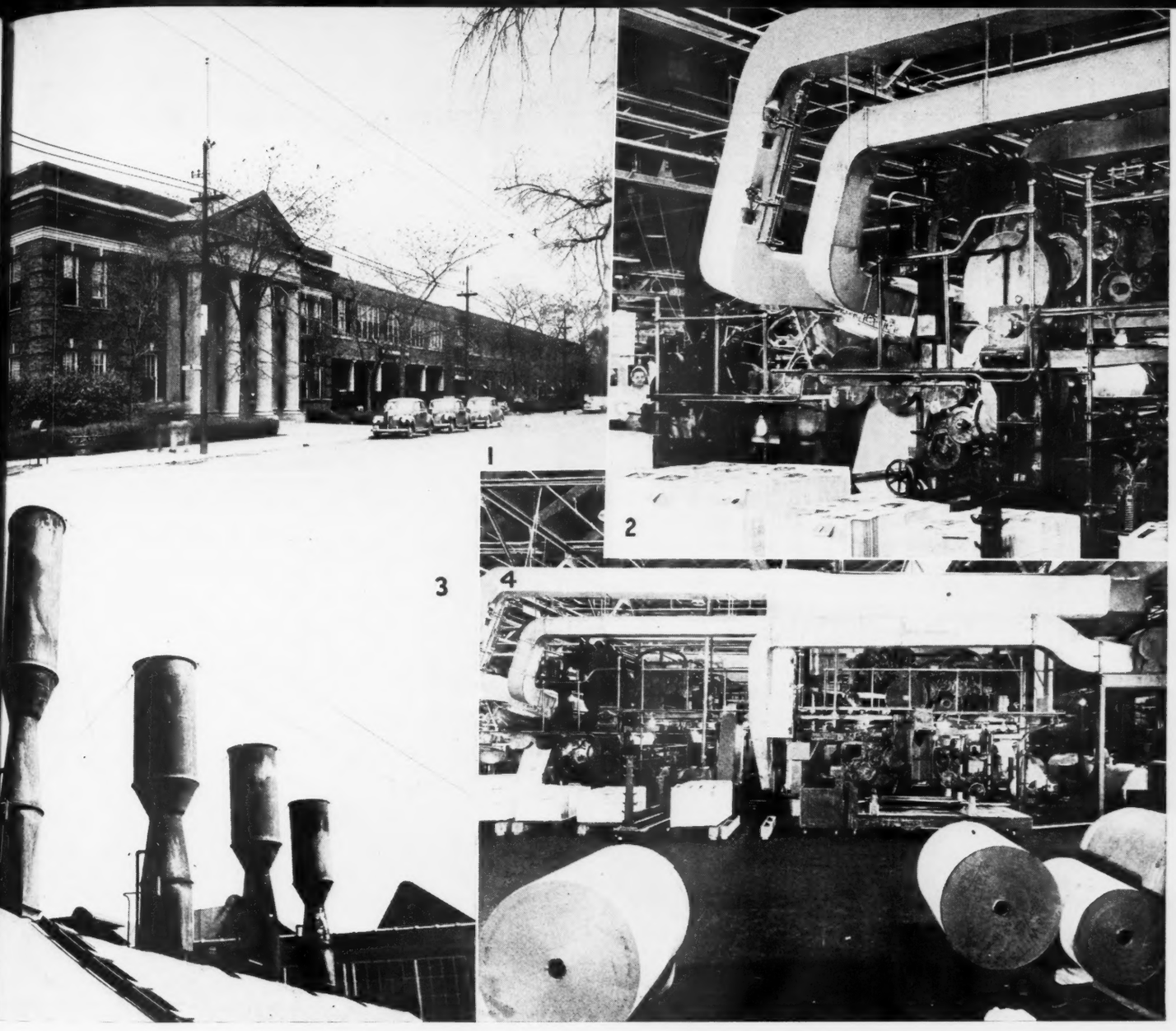
The 1948 Eastern District Conference of the Intl. Typographic Composition Assoc. will be held on Friday and Saturday, April 9 and 10, at the Hotel New Yorker, in New York, N. Y. At the first session on Friday evening, an explanation and physical demonstration of the Varityper will be held. Ladies attending the conference will be guests of the New York Typographers Assoc. at a luncheon in the New Yorker's Terrace Room at noon on Saturday.

At the Saturday morning session, discussion of reports to be presented by officers will be held. President Oscar Hoffman, Vice President Frederick H. Lutz and Executive Secretary Frank M. Sherman will present reports. Presidents of local affiliated organizations will also present reports.

At the Saturday luncheon, Don Taylor, Executive Vice President of the N. Y. Employing Printers' Assoc., will speak upon the subject: *Strength Lies in Unity.*

The Saturday afternoon meeting will be given up entirely to a description and explanation of the new Intertype Fotosetter. A question-and-answer period will follow.

All commercial composition plant owners are invited to attend the conference.



1.—The large plant of the W. F. Hall Printing Co. spreads over a good size area in Chicago's northwest side. Smoke from the stacks leading from the high-speed ink drying equipment in the publication pressroom has ceased to be a problem in the neighborhood.

2.—Magazine printing press in plant of W. F. Hall Printing Co., Chicago. (Eventually 40 presses will be similarly equipped.) Note the gas smoke burners in the duct at upper left. This equipment, developed through research by the Hall engineers, solved the smoke problem.

3.—So thin is the vapor of smoke emerging from these stacks atop the Hall publication pressroom that the camera did not register it even with a color filter. Gas-fired smoke burners installed in the ducts consume most of the smoke caused by the high-speed ink drying process.

4.—These twin Cottrell high-speed ink drying presses operating 24 hours a day print four-color slick-paper sections of *Life* magazines.

Adjusting Stitcher

ON wire stitching machines, in which the head drops a short distance to the top of the book being stitched, it is somewhat of a job to adjust the table to the job to be stitched. In the Kurzenknabe Press, Harrisburg, Pa., this adjustment has been simplified by means of a brass block.

The brass block is about 2 in. long with the other sides exactly equal to the distance that the head of the stitcher drops to meet the top of the book when the table is properly adjusted. By making all sides of equal measurement it prevents using the brass block with the wrong side up.

To adjust the stitcher with the aid of this brass block is an easy matter. All that is necessary is to drop the stitcher table as far as it will go and then put one of the assembled books on the table. The brass block is put on the top of this assembled book. The table of the stitcher is then brought up toward the head of the stitcher until the head is tight against the brass block. Since the brass block is the same thickness as the distance the head travels to reach the top of the book being bound, it naturally follows that when the block of brass is removed and the machine is put into operation the head of the stitcher will drop and stop only when it is tight against the top of the book being stitched which is the operating position.

With the aid of this brass block the stitcher can be adjusted for any size book in a matter of less than a minute. A screw eye has been inserted in one end of the brass block so that the block can be hung on a projecting screw on the machine when not in use.

No Women in White

American Red Cross personnel in interior China found many hospitals facing the problem of aversion to nurses' white uniforms—white being the color traditionally associated with death in China. Problem was solved by dyeing uniforms blue and sewing red crosses on them for nurses' identification.

"Go Ahead and Buy It"

Advises W. W. Brown with respect to composing and stereotype equipment when reporting upon progress in development of the Perry Process for making direct-printing newspaper page plates, at Western Div. SNPA Mechanical Conference, Dallas, Tex., February 1948

OUR experience indicates that this process has considerable merit. There is a great deal to be done before it is perfected to a point where accurate cost figures can be projected for comparative purposes. The time it takes to determine whether the process is sound from a production standpoint will depend upon how soon the various machines will be perfected.

"I cannot tell how long this may be. I do know that it takes a much longer time than anticipated to design and perfect even a simple machine. So it is anybody's guess as to how quickly this process can be fully proved.

"To newspaper publishers, both daily and weekly, if you are in need of new equipment in your composing room and stereotype room, go ahead and buy it. Get the benefit of the better production this new equipment will give you. At best it will be some time before this process will take the place of the present-day method and it will take a great deal of time and money to get the bugs out of it.

"Let some one else spend the time and money to get this on a practical basis. Then if it is finally worked out to a point where you can justify using it in preference to your present methods, you can start with a sure thing.

"You will welcome it just as much when it is ready as you would now, even if it is one, two or even five years away, because, it is my guess that the high cost of production will still be with you."

Technology *of newspaper printing industry examined at Dallas (Tex.) SNPA Western Div. Mechanical Conference*

By STAFF WRITER

APPROXIMATELY 300 mechanical executives and manufacturer and supplier representatives attended the February 16 and 17 mechanical conference sponsored by the Western Div. of the Southern Newspaper Publishers' Association. Mostly, the attendance was from Texas and Oklahoma with executives attending also from Arkansas, Kansas, Kentucky and Louisiana. Manufacturers and suppliers were represented as shown by the list in another part of this report.

Two punchy addresses were presented by W. W. Brown, Vice President and General Manager of Western Newspaper Union, and by Richard Lloyd Jones, jr. Vice President and Business Manager of Newspaper Printing Corp., Tulsa, Okla.

Other speakers were: C. M. Flint, Director of Research, American Newspaper Publishers' Assoc.; Ray Kimball, of the Magnolia (Ark.) *Banner-News*, who spoke on practical Teletypesetter operation; and Howard Jampol, President, Jampol Mfg. Co., who discussed modernization of mailing rooms.

Clinic meetings represented by the particularly interested groups were held. These pertained to the composing room, the machinists, pressroom, stereotype and engraving rooms.

New Officers

J. A. Risher, Oklahoma City (Okla.) *Oklahoman and Times*, was elected chairman of the conference and W. J. Dowell, Tulsa (Okla.) *World-Tribune*, was elected vice chairman. C. W. Tabb continues as secretary.

Elected to the executive committee, to serve until 1951, were George Woodman, Fort Worth (Tex.) *Star-Telegram*; J. Palmer Black jr., Amarillo (Tex.) *Globe-News*, and H. W. Hartman, Houston (Tex.) *Post*.

The executive committee will meet in August to select the 1949 convention city and plan the program for the next annual meeting.

Topic leaders for next year will be Houston Awalt, San Antonio (Tex.) *Express*, composing room; J. R. Loughridge, Houston (Tex.) *Post*, stereotype; Frank S. Beneke, Fort Worth (Tex.) *Star-Telegram*, press room; V. W. Lamoreux, Shreveport (La.) *Times*, machinist, and Arch Dixon, Tulsa (Okla.) *Oklahoman and Times*, photoengraving.

Exhibitors

The printing equipment and supply manufacturers who maintained displays at the Dallas Western Div. SNPA Mechanical Conference are as follows:

Capitol Tool Mfg. Co., Spot Color Fountain.
Challenge Machinery Co., Proof Press.
Hamilton Mfg. Co., Type Cabinet.
Hammond Machinery Builders, Inc., Easy Kasters, Saw Trimmers, Strip Metal Cabinets, Router Planer, Radical Router and Full Page Scorcher.
Harry Horn, Strip Caster.
Imperial Type Metal Co., Literature.
Lake Erie Engineering Corp., Directomat Display, Mat Molding Equipment.
The Lance Co., Saw Grinding Machine, Metal Furnace and Miscellaneous Shop Equipment.
The Morrison Co., C. & G. Saws and Slug Stripping Machine.
H. B. Rouse & Co., Bandsaw.
Teletypesetter Corp., Literature.
Tesch Mfg. Co., Saw Filing Machine.
Western Newspaper Union, Table Display.

The Perry Process

W. W. Brown, Vice President and General Manager of Western Newspaper Union, made a report upon the present state of progress with respect to the Perry Process for making full-page newspaper plates through typewriter-like composition and photo-engraving technique. In this process, the photo-engraved magnesium plates are curved, are mounted upon a dummy so that both the plate and dummy will be the equivalent thickness of a stereotype plate. The plate is then mounted upon the press cylinder and printed from direct.

Mr. Brown stated four main steps were involved in producing the plates, as follows:

"Step No. 1.—Setting type by typewriters. We started with the Proportional Spacing Electric Typewriter, manufactured by International Business Machines. This machine was equipped with a 12 pt. face of type of the same style as used in the average daily newspaper. Copy was set in 12 pt. and reduced to 8 pt. This meant that on all copy used—ads, photographs, type, etc., allowance had to be made for one-third reduction.

"The reasons for this were: (1) a sharper plate could be made, thus giving better printing results; (2) Mainly, however, the Proportional Spacing machine

(*Continued on Page 60*)

Northwest Newspaper Mechanical Conference

THE fifth annual Northwest Mechanical Conference, held at Hotel St. Paul, St. Paul, Minn., February 14, 15 and 16, was attended by 446 persons. Visitors came from 15 states and two Canadian Provinces. The program was excellent and, in several major instances, carried out the request from representatives of smaller papers, "Keep it Simple—you're talking over our heads."

After opening ceremonies at the general assembly on Sunday, President Charles Bertram, St. Paul *Dispatch-Pioneer Press* Pressroom Superintendent, announced the various meetings to be held and the assembly broke up into Photo-engraver and Line-casting Machinist Clinics.

Speakers before the Photo-engravers were Dan E. McCue, Superintendent, Quality Park Engraving Co., St. Paul; H. E. Swayze, Dow Chemical Co., and Harvey Holsapple, Harold M. Pitman Co. George Marsh and Ernest Scherer were co-chairmen.

Mr. McCue's talk on "Basic Engraving", followed the pattern of "make it simpler." Many persons have the idea that photo-engraving is a bag of tricks, Mr. McCue said, adding that nothing could be further from the truth. It is, instead, he declared, a skill and an art based on sound fundamental knowledge. So-called tricks of the trade are used to add refinements to the fundamentals, but unless the tricks are based on sound knowledge they are of no value and will likely lead to trouble. All moves in photo-engraving are scientifically sound, and photo-engravers must know and understand these scientific facts.

The materials supplied for photo-engraving are made in plants under laboratory control, Mr. McCue said, and are as perfect as the manufacturers can make them, so that the man who blames the faults in his work on "poor materials" is using an alibi which has no basis in fact. The man who uses "tricks" instead of knowledge is likely to use that alibi, he said, and is likely to continue to get into trouble until he gets down to fundamentals.

Mr. McCue expressed the belief that photo-mechanical color reproduction will arrive, full-fledged in not more than five years.

Discussing the basic principles of camera practice, Mr. McCue used a series of charts of tone values to illustrate the effects of various camera treatments of a subject. He pointed out that leaving off the flash would result in the lower three tones becoming flat black; that proper use of flash will result in less contrast, but smoother tone gradations from highlight to shadow. Newspaper work aims at high contrast, he said, whereas for commercial work a softer, smoother tone range is preferred. Moving the screen closer to the film will flatten the tone of the image and excessive flash will disastrously over-flatten tones, bring the intermediate values too close together.

Starting point on camera calculations, Mr. McCue said, is the bellows draw—distance from film to lens being the basic factor. Distance from lens to copy has little to do with light, he said, the light control actually resting in the relation between the stop and the distance from lens to film. When this distance is reduced the stops must be reduced; when lens to film distance is increased the stop must be increased. If this relationship is not kept constant, the speaker said, weak or imperfect negatives will result. Tone control can be regulated considerably, he explained, by moving the screen closer to or away from the film.

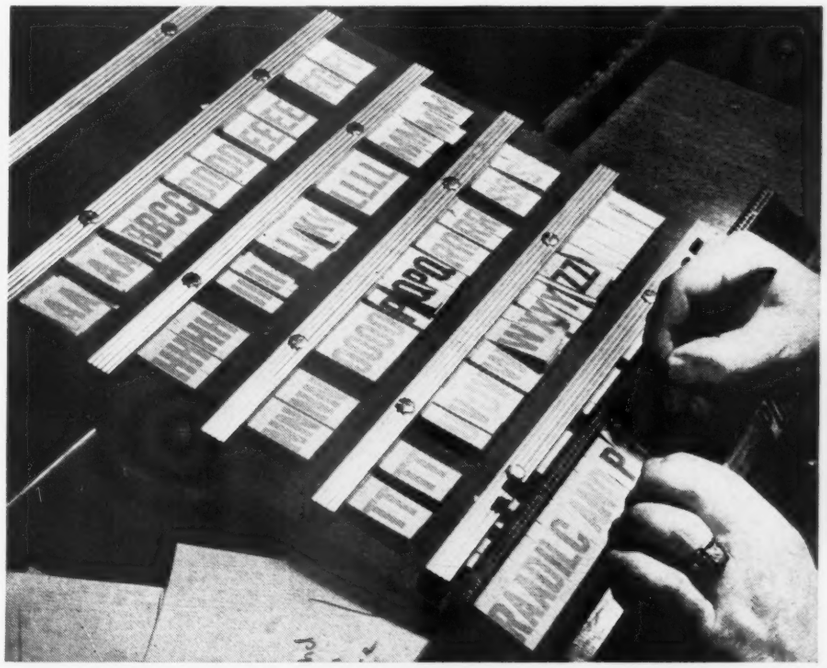
Mr. McCue decried the practice, generally, of taking shortcuts. Only a very good man can take them without getting into trouble, he said, and even with the best of shortcuts, there is a limit to the time that can be saved safely. In zinc etching time can be saved, he said, where powder is used, by using heavier powder for the first two bires, but there is always the risk of pushing it too fast, undercutting the dot and losing tonal values to an unacceptable degree. Rolup can also be pushed too fast, he warned. As a final warning on this phase of the operation, he said that whenever you ask a photographer for a quick print or a photo-engraver for a quick cut you are courting trouble. Best way to save photo-engraving time, Mr. McCue explained, is to have more and better equipment, but stick to sound practice in the actual operation.

An interesting talk was also given by Harvey Holsapple, discussing Photo-engraving in War and in Peace. He had a major role in perfecting the processes by which metal and glass reticles were made for the Navy during World War II.

With respect to photo-engraving in peace, Mr. Holsapple declared it behooves photo-engravers to be prepared for a new era in their industry. An example of this trend, the speaker said, is the rapid increase of color in magazine advertising in the last 10 years, with four-color work making the most advance. Newspapers are destined to enter the color field on a large scale, he declared, adding that at present about 22% of our 1700 dailies offer color advertising in regular news sections.

Direct printing from light-weight Zomag plates where the type as well as the halftones are engraved on a single page, is a reality to be reckoned with on an increasing scale, the speaker said.

A new aid to the color field, said Mr. Holsapple, is the Potter-Cushing-Pitman



(Acme Photo)

Fototype Letters for Display and Heads — A number of readers of *Printing Equipment Engineer* have asked about Fototype letters used in offset-lith reproduction and more recently in accelerated form for newspaper composition in connection with typewriter-like body type composition. Fototype letters are printed in black ink on white heavy paper. As will be seen in the illustration, the letters are trimmed in size in pad form and are held in racks. A number of sizes and styles of type faces are available.

In assembling a line of type, the operator removes the wanted letters one at a time from the pads representing the font of type. With the aid of a bodkin, the letter is placed in a grooved stick which is scaled for length. After assembling the letters in alignment, Scotch tape or other adhesive means is applied to the back of the assembled line, after which the line is passed along to the layout department making the pasteup of the page or form.

(Left) Northwest Mechanical Conference President Charles Bertram, St. Paul (Minn.) *Dispatch-Pioneer Press*, grew enthusiastic about 1948 Conference attendance (446).

(Right) B. H. Ridder, Sr., Editor, the same newspaper told conference about rapid changes coming in production mechanics.

proofing process which he described as follows:

From the original screen negatives, contact prints are made on stripping film. The strip film negatives are then developed and fixed in the usual manner and either hung to dry or immediately processed as time permits, or the operator prefers. The negatives are placed in an A & B reversal solution for a few minutes, rinsed, and placed in separate dye baths for those colors required in the job. After dyeing, the prints are immersed in a solution to set the colors, then stripped to register on a white paper support. The result is a proof in color for the color operator's check and the color etcher's guide. The whole thing, from the time the negatives are shot, requires about 20 min.

Mr. Holsapple also mentioned a new photo-engraving screen, an etched rectangular reticle with rulings etched on both sides and filled with ferric ferrous oxide and silicate, and set in a plastic mounting. A feature of it is that it has a dot with a rounded corner. While a 24 in. camera will only take a 23½ in. circular screen and only give a 15 in. by 18 in. image, by the use of the raw rectangular screen it is possible to make a 20 in. by 24 in. job—the equivalent of using a camera that would take a 31½ in. circular screen. In other words, a full page can be handled with a 24 in. camera. Screen separation tests with negative and print to give the operator the correct screen separations are furnished. The new screen is made by Buckbee-Mears Co., St. Paul.

Mr. Swayze gave a technical discussion on the characteristics of magnesium as a plate material. He stressed, however, that its use for newspaper plates is not intended for metropolitan dailies, but rather for weeklies and small dailies.

Line-casting Machine Clinic

The Line-casting Machinists Clinic was featured by a number of outstanding talks. Presiding over this clinic was Joseph J. Cory, conference second vice president and St. Paul *Dispatch-Pioneer Press* Machinist. Assisting him were Joseph Hick, St. Cloud *Times*; John Breen, Duluth *Herald-News Tribune*; Herb Lind, Mergenthaler Linotype Co., and George Curle, Minneapolis *Times*. Speakers included A. C. Albin, Mergenthaler Linotype Co.; William J. Easton, Mohr Lino-Saw Co.; Frank J. Phillips, Teletypesetter Corp., and John Hilpman, Mergenthaler Linotype Co., the latter giving only brief remarks in connection with Linotype repairs and adjustments. Linotype parts slides were displayed through the courtesy of the Department of Printing, William Hood Dunwoody Institute, Minneapolis.

Mr. Albin in discussing Linotype Developments, said the first change to be made after the war was a new design of the toggle lock on the Linotype self-quadder. The new toggle lock, he said, is a sturdy, three-piece design which consists of front and rear toggle arms, plus the stud that holds them together. He added that the hardened steel shoes which formerly were used in the toggle lock housing have been eliminated. The new design, he said, permits a solid plate to be placed on top of the toggle lock housing, thus enabling the company to design a metal chip and dust shield for the control rod and the toggle lock mechanism.

Mr. Albin said the vise jaw control rod has been simplified as well as the increased pressure mechanism just back of the vise. In addition, he said, the micro-therm electric pot pilot light set-up has been changed with neon lamps being used in a self-contained socket, the resistance being built into the socket. These lamps have a life of 15,000 or more hours, he said, adding that the indicating lamps for mouthpiece and throat heaters have been moved to a new location in front of the crucible relay box attached to the mold gear arm.

The gas pot has been redesigned and provided with automatic micro-therm control and now there has been perfected an electronic temperature control which is to be tried out in machines through the country, Mr. Albin said.

Describing the control, the speaker said that the heart of it is the resistance bulb. He had with him a sample with which to demonstrate. It has a coil of fine nickel wire wound around a mica core, supported by a pure silver spacer which quickly transmits a change in temperature to the nickel wire core, he explained. When the temperature of the metal decreases it decreases the resistance of the nickel core, this change in resistance being converted by means of a simple bridge circuit into a change of voltage. This causes the Thyron tube to fire, which means there is an electronic stream between the cathode and the plate. The plate current energizes the relay coil to allow the current to pass to the heating units of crucible or mouthpiece. The control can be made accurate to a tenth of a degree, the speaker said.

Since there are no movable parts in the resistance bulb and since it is connected only by wire to the heat control, the control could be placed anywhere away from the machine up to a distance of 1000 feet, Mr. Albin said, pointing out that this would enable machinist or

Mechanical Engineer Julian B. Eberle, Milwaukee (Wis.) *Journal*, told the mailing room clinic how his paper mechanized mailing room, reduced labor and increased efficiency.

William Benson (left) of St. Paul *Dispatch - Pioneer Press*, listens while H. E. Swayze of Dow Chemical Co., explains magnesium now has a part in newspaper production from camera flash bulb to printing plate.

electrician to keep tab on the heat control right from his bench.

Mr. Easton followed with a talk and a series of slides of the Mohr Lino Saw, exhibited through the courtesy of the Typesetting Machinists Society of Chicago, a talk which Mr. Easton has given at other meetings this year.

Mr. Phillips, discussed the Teletypesetter.

Composing Room Clinic

The Composing Room clinic at 2:45 p.m. Sunday was featured by talks by Herman R. Freund, Chief Engineer of Intertype Corporation on The Fotosetter, Howard N. King on Typography; Wilbur H. Roth, manager, retail advertising department, St. Paul *Dispatch-Pioneer Press* discussing Advertising Economy, and John Barron, Copyfitting and Markup. Robert E. Lee presided over the clinic with William J. Davies as co-chairman.

Mr. Freund, first speaker of the clinic, attracted close attention for the Fotosetter, like magnesium plates, was a "first" to the majority of those attending the conference. (See summary of Mr. Freund's New York address elsewhere in this issue of *Printing Equipment Engineer*.)

Mr. Roth spoke in place of John F. Lewis, advertising director, St. Paul *Dispatch-Pioneer Press*, who was unable to attend.

In the tighter times to come, the speaker said, the mechanical and advertising departments of a newspaper will have to co-operate as never before. The advertising department will have to submit copy in such shape as to expedite handling in the composing room; store heads and advertising personnel will have to be educated to strict adherence to deadlines, to keeping copy, layout and illustrations coming in a steady flow to avoid bottlenecks. Screwy layouts will have to be avoided, more and more care exercised in the composing room to follow copy explicitly, avoid corrections and expensive resets. And above all, advertising and mechanical departments will have to give up the age-old custom of passing the buck.

The publisher, caught in a squeeze between rising costs and diminishing revenues, cannot raise advertising rates, Mr. Roth said, because advertising rates were raised too fast during the war and further increases would probably mean a decrease in lineage. The only answer, he said, is economy in operation.

Warning against advancing advertising deadlines too far, the speaker said that the one big advantage which newspaper advertising has over other media is flexibility and timeliness. Quite often the ability of a merchant to advertise tomorrow the goods he receives today is his prime motive in using newspaper advertising.

Mr. Barron urged newspaper composing rooms make every effort to utilize short-cuts and save walking time on the part of compositors. He recommended that, where a plant has a Ludlow, a set size guide be employed, so that if the compositor runs out of a certain letter in a long line he can glance at his guide and determine what other letter has the same set size. Then he can substitute that letter for the right one and make the replacement after the cast.

Mailing Room Clinic

The mailing room clinic at 4:30 p.m. Sunday was presided over by J. M. Mayen, with Vern Hol as co-chairman. Featured address was that of Julian B. Eberle, Mechanical Engineer of the Milwaukee *Journal*, speaking on Mechanized Mailing Room. At the conclusion of his talk, a color-sound movie of the Milwaukee *Journal* Mailing Room was shown.

Winding up the clinic, Joseph Menard, Mailing Supt., Des Moines *Register* and *Tribune*, described new equipment in use about the country, including a new Addressograph sack label machine which will print and cut to size 4000 labels an hour; the Zimmer insert machine which rejects an imperfect copy and keeps on running—only machine to do this, and a new electric weld Girard tying machine which will change wire sizes without stopping.

Ridder Banquet Speaker

B. H. Ridder Sr., president and editor of the St. Paul *Dispatch-Pioneer Press*, was the speaker at the annual banquet Sunday evening. Mr. Ridder declared that the newspapers are facing a period of sudden changes which will place a heavy burden on mechanical personnel. He pointed out that last year was one of the greatest in advertising volume in history, but that costs began to outspeed the advertising increase so that December showed little profit—January less.

Great changes in newspaper mechanical operation came about last year, the editor said, some of them as the result of the Chicago strike, at which occurrence he expressed great regret. Regardless of the causes, he said, American engineering is developing new methods which will short-circuit composing and stereotyping. He predicted these developments would mean a great deal to the small town publisher, who, he said, would be able to operate a newspaper plant if he knew how to run a photoengraving plant.

Combined Clinic

Co-chairmen for the Stereotype, Pressroom and Maintenance Machinists clinic on Monday, Feb. 16 were William Benson and Elmer Sandeen, pressroom; Lawrence Kameron and Pete Seeman, stereotype; Max Kueppers and Hy Christensen, maintenance machinists. Speakers included Mr. Swayze, who repeated much of his talk before the photoengravers, except to eliminate some of the more technical phases; 1. Tornberg, Wood Newspaper Machinery Co., discussing Stereotype Equipment, and David Barr, Goss Printing Press Co., speaking for Wm. T. Goss, who was called east just before the conference. Mr. Barr spoke on Newspaper Press for Small and Medium Size Papers.

Pointing out that the flat-bed and tubular press field has been covered for many years by the Goss company and the Duplex company, Mr. Barr said he would not predict any revolutionary changes for this press field but would, instead, merely outline plans of the Goss company since it acquired the Duplex plant. He said the company would continue to service all presses, Goss or Duplex and would stock repair parts for a long time after any models are discontinued. Parts can be made, however, for presses 50 years old because drawings are kept after storage problems make destruction of patterns necessary.

Only Duplex model to be discontinued thus far, Mr. Barr said, is the Model A in the flat-bed field. The company will continue to make the Model E and Cox-O-Type, he said, with engineering work soon to start on modernizing of the Model E. It will not be practical to continue three tubular models indefinitely, Mr. Barr said, but the company must do so for the present because of the large number of orders for the Duplex Decker-type, Duplex Unitubular and Goss Unitube. He said the company would probably settle on two models. The Goss Headliner, newest in the line, is now being manufactured in quantity and quite a few units are being installed, Mr. Barr said.

Final clinic speaker of the conference was Mr. Tornberg. (See summary of address elsewhere in this issue.)

Put To Best Use *available stereotype equipment — Suggestions outlined will be helpful — Newly designed equipment to be available shortly*

By I. TORNBERG*

**President, Wood Newspaper Machinery Corp. Abstracted from address delivered before Northwest Newspaper Mechanical Conference, St. Paul, Minn., February 1948.*

THE stereotype equipment available today may be put to better use than we are usually aware. We can obtain better service from it if we learn how to use it to better advantage. I would like to point out how the old techniques and equipments can be made to serve us better through the application of greater intelligence and better craftsmanship.

With the assistance of an authority on

I. Tornberg, Vice President of Wood Newspaper Machinery Corp., gives advice on getting maximum use from present stereotype equipment.

this subject, Eddie Rehm, I have compiled some thoughts which may be of interest.

First of all, there is the matter of chases. It is important that the chases on which mats used in Autoplates are molded have correct bolsters and trimming lines. Mats should always be trimmed to the same length and must be thoroughly scorched after trimming. Your matrix shears should be provided with stops so that proper trimming of the mat to correct size will be facilitated. In many newspaper plants when a change in the width of the page is made, too little attention is given to the proper alteration of the chases. This will result in pinching and binding of the mats when placed in the casting box and will result in pull-downs, buckles, and metal leaks.

A new method of processing mats for casting in Autoplate equipment has appealed to many Autoplate users. This calls for the use of packing in the head and foot bolsters of the mat and the reduction of the height of the bolster packing strip in the same amount, usually 0.040 in. It has been the experience of mechanical superintendents and foremen of stereotype foundries where this procedure is followed that the packing at the head and foot provides greater resiliency and a better setting of the matrix clips or core casting bars and eliminates danger of leaks and pull-downs.

Pouring sheets should be properly fitted to the machine before using. We always furnish pouring sheets slightly oversize. On the Pony it is necessary to file slightly the two holes at the top of the pouring sheets in addition to the two flanges or edges, to assure a perfect fit. On the Junior and Automatic the two edges must be filed to fit snugly between the matrix holder clips when the casting box is locked up.

The design of the matrix clip on an Automatic is similar to that of a Junior. The clips can be adjusted to suit various thicknesses of mats by lengthening or shortening the adjusting turnbuckle arrangements. It is better to have them rather loose and never too tight. It is good practice to set them about 0.002 in. tighter than the thickness of the mat. On the Pony the core casting bars can also be adjusted to suit the mat thickness. This is done by means of two eccentric studs back of the core.

Frequently there is a desire on the part of some Autoplate user to increase the length of the printed page. When this increase consists of only one or two agate lines, no great difficulty is involved in the adjustments. This change merely calls for machining off the face of each matrix clip or core-casting bar one-half the amount of the increase desired, and filing off the corresponding amounts on each bolster packing strip. If the increase in length is more than two agate lines, you will, of course, have to install a new casting box, new segment rings, etc.

One item which haunts many a stereotyper is "pull-downs". By this is meant the loss of the heading of the last line at the foot of the plate. This difficulty, assuming that it is a plate condition, is caused by any one of the following reasons: (1) If the mat is trimmed improperly, too close to the type at either head or foot, the top of the bolster strip will be too close to the type matter and will pull the matrix away from the casting box. (2) If the casting bars on the Pony or the matrix clips of the Junior or Automatic are adjusted so the mat is gripped too tightly, a pull-down will result, because the mat is prevented from going back fully against the box. (3) Another reason for pull-downs is a long page length. Forms should always be locked up in the same length. If the mat has longer type matter than the casting box was built for, the type will be close to the end of the plate, and the clips or bars will pull the mat away from the box.

We frequently hear of a mat creeping in a Junior or Automatic. The use of vacuum in the casting box minimizes this nuisance which is sometimes brought about by improperly adjusted matrix clips. Periodic inspection should be made of the parallelism between the casting box and cylinder. If excessive play develops around the casting box rolls permitting the casting box to tilt forward at the top and move away at the bottom, it will likewise produce mat creep.

On Autoplate machines, both the casting box and the cylinder or the core are water-cooled; the amount of water necessary to cool the cast depends upon the temperature and the pressure of the water and temperature of the metal. Best results are obtained with water temperatures between 60 and 75 deg. and pressures between 8 to 15 lbs. with the valves fully open. Where excessive heat develops, it is a good plan to clean out the water chambers by using a boiler compound or a solution of three parts of muriatic acid and one part of water. The solution should be allowed to remain in the box or core four or five hours, or at least as long as it boils and bubbles, eating away the foreign accumulations on the walls of the water chambers. After using the solution, it is important that these chambers be flushed with cold water.

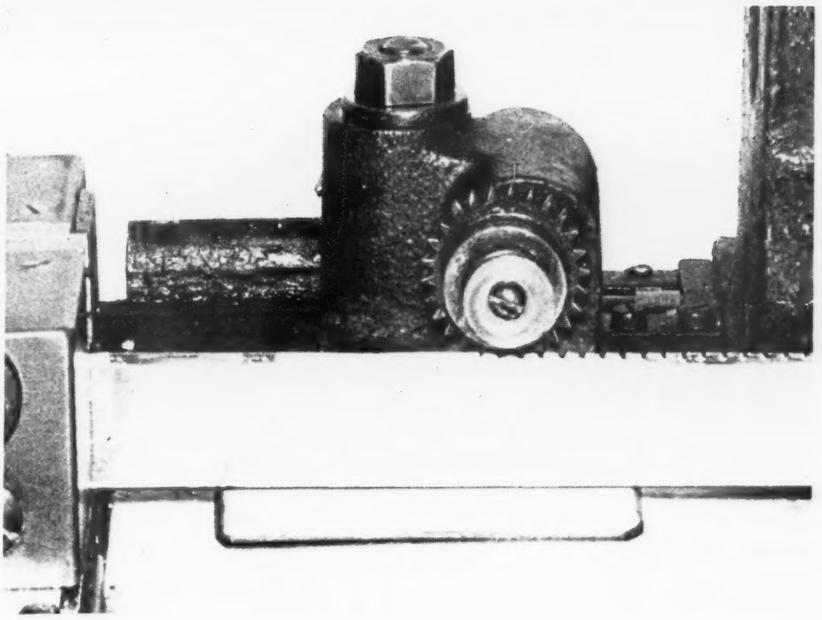
In larger newspaper plants where Juniors or Automatics are in use, the plates used with the Tension lockup have the necessary pockets milled on the inside of both straight edges in what we call the Tensionplate attachment to the Heavy-Duty Autoshaver. This attachment takes the place of the delivery end of the Heavy-Duty Autoshaver and permits the plate, after it is shaved, to dwell just long enough to have the pockets cut therein by means of milling cutters revolving at high speed.

For the smaller plant, where a Pony is in use, the pockets are cut into the plates on another machine called the Automiller.

While we are on the subject of pre-registering color plates, may I also mention the availability of a pre-registering machine for color plates which do not use the Tensionplate lockup. This machine, known as the Color Plate Pre-Registering Machine, recuts the two curved beveled edges and one straight edge of the several plates after their printing surfaces have been brought into register with one another.

Among some of the newer developments, I would like to mention one or two. One of these was born out of sheer experience on the part of men who are employed in making plates in the Stereotype department of the Detroit *News* which is presided over by Charlie Kirk. It was realized that something should be done in improving the otherwise simple operation of returning used stereotype plates to the furnace. They became aware of the constant danger of molten metal splashing out at the operator. It was observed that wasteful, back-breaking toil was involved in lifting a stack of used plates from a low to a high level in returning them to the furnace. This practice made severe demands on the heating equipment of the furnace, resulting in greater variations in temperatures than necessary.

Fred Meyers, Master Mechanic of the Detroit *News*, rigged up a contraption which receives the used plates, one at a time, at a low level and delivers them, one at a time, into the furnace. In a short time the trade will receive official notice of the availability of this device called the Autolift, about to be announced in the technical press.



Notches Leader Rule After Casting

CONVERTING plain strip rule of various weight faces into leader rule is accomplished in the composing room of the Grand Rapids (Mich.) *Press* by Si Vermaire, the operator, through a simple mechanism which he has attached to a Monotype material casting machine. Notching the rule face is done automatically and at regularly spaced intervals as the rule is pulled from the mold. The rule is used by compositors to provide coupons in advertisements and in some cases for borders purposes.

The device, as shown in the illustration, is simple and consists of a discarded Linotype part No. D-3043 Assembler Pulley Gear, the teeth of which become sharpened after long use. It is easy to true up the tips of the gear teeth in a lathe and sharpen them with careful filing by hand. The gear is then mounted in place of the regular fibre hold-down roller attached to the bracket assembly No. 10-178F2.

A piece of galley bottom 0.050 in. thick and measuring approx. 2 in. by 3 in. was next attached to the bottom of the bracket and extending outwardly from the block base. The rule passes over the brass piece cut from the galley and forces the rule face into the teeth of the assembler gear which is free to rotate on its stud.

Fotosetter—*Further details released*

By HERMAN R. FREUND*

**Chief Engineer, Intertype Corporation, Brooklyn, N. Y. Abstract of addresses delivered before Club of Printing House Craftsmen of New York (N. Y.), and before Northwest Newspaper Mechanical Conference, St. Paul, Minn., February 1948.*

THE Fotosetter is built on the familiar principle of the present slug-casting machine. Circulating matrices, stored in magazines and carrying tooth combinations for distribution into these magazines are used.

In place of the casting mechanism, camera equipment is used. After the line is delivered to the justifying mechanism, the camera begins to function and the assembled line is projected and photographed letter by letter onto the sensitized paper or film.

Simultaneously, the line is automatically justified to a predetermined length, and with any desired spacing between lines. After the line has been photographed, the matrices are returned to the magazines to be used again, just as on a slug-casting machine.

114-Key Keyboard

The Fotosetter is provided with a keyboard containing 114 keys, 24 more than are available to the operator on a single keyboard line-casting machine. This keyboard provides for three alphabets as well as a complete set of figures and points.

117-Channel Magazine

The light-weight magazine has 117 channels, which includes one extra channel of lower case e matrices and two extra channels of spacing material. The machine can be operated by Teletypesetter or typewriter keyboard units.

The assembler slide is direct-reading, so that it is unnecessary for the operator to calculate what length of line to compose to suit a selected one of the eight lenses carried in the lens turret.

A simple device enables the setting of lines flush left or flush right.

If it is desired to kill a line, the depression of a small knob will prevent photographing and will stop the film from feeding as the line of matrices passes through the camera on its way to the distributor.

Light Intensities

A three-way switch provided current for two different light intensities—one for exposing film and the other for exposing sensitized paper. A light meter indicates the proper light intensity for both and a constant voltage transformer regulates current fluctuations.

Should composition be interrupted for any reason, the second elevator, which has raised the line of matrices just photographed, stops automatically in a convenient position for easy reading. Here the operator may check the line previously set and photographed.

Letter-by-Letter Principle

The Intertype Fotosetter is designed on the letter-by-letter principle of photographing each character individually, rather than on the line-by-line principle of photographing an entire line at a time.

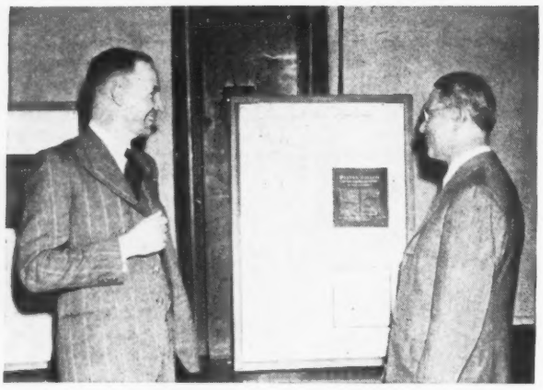
The Matrix

The Intertype Fotomat, (matrix) carrying the master character, is entirely new and revolutionary in design. The master character, in the form of a photographic image, is embedded in the side of the matrix, secured in position and fully protected from injury.

Letter Spacing and Alignment

Because the principle of circulating matrices is used and because each matrix thickness is equal to the width of the character it bears, each letter is perfectly spaced and aligned during the process of photographing on the sensitized film or paper. It is generally agreed that no single characteristic more quickly distinguishes good typography than the spacing of the lines and the letters. Correct spacing is easily obtained by this new method.

The amount of spacing required for the justification of a line is automatically divided by the machine, throughout the entire line, between characters, if necessary, as well as between words. When the spacing between lines is established, that spacing will be repeated accurately, line after line, until changed. Variable spacing between lines is easily obtained also.



At left is Dr. H. J. A. de Goeij, Technical Director of De Spaarnestad Publishers, Harlem, Holland. At right, Herman R. Freund, Chief Engineer, Intertype Corporation. This picture was taken by *Printing Equipment Engineer's* Associate Editor, Adam Henri Reiser when these men spoke before the New York Craftsmen's Club, February 1948.

Operation of Camera

In its simplest form, the camera operates as follows: As each matrix is removed from the assembled line, a rack follows up the remaining portion of the line. This rack, in turn, permits the film carriage, containing the sensitized film or paper, to drop a distance equal to or proportionate with the thickness of the matrix removed. The relative movement of the film is controlled by a gear transmission situated between the horizontal rack which follows up the matrix line, and a vertical rack which permits the film carriage to drop by gravity.

Speed Exceeds Operator's Ability to Compose

The matrices are advanced vertically to the light beam for photographing and, finally, to the distributing position by intermittent motion at a speed far exceeding any operator's ability to compose.

The characters in the matrices are illuminated by a 6 v. 50 c.p. standard headlight bulb. This bulb is used in conjunction with a reflecting mirror and a simple condensing system.

Film Feeding Mechanism

The film feeding mechanism is provided with two film containers. In one of these containers, as much as 20 feet of film can be stored. After the line has been photographed, a special feeding mechanism advances the film a predetermined amount. The film feeding dial is graduated to advance the film 20 different amounts. (More can be added if necessary.) This means that an equal number of accurate line spacings are instantly available.

The film is fed into the other, or receiving container, which can be removed for development at any time, in daylight and with any amount of exposed film. A convenient way is to remove the film when the equivalent of a galley of type matter has been set.

The camera is hinged on the machine in such a way that it can be swung open for inspection or it can be removed from the machine as a complete unit.

Camera Lens Assembly

The lenses for the Fotosetter camera were developed by the Eastman-Kodak Co. As many as eight lenses can be mounted in a lens turret within easy reach of the operator. By means of a simple knob and dial, any one of these lenses can be accurately positioned with respect to the optical axis.

These lenses are pre-focused to magnify or reduce the matrix character accurately and to project the character image onto the sensitized paper or film. We use standard Kodalith paper, but the film is a special Kodalith product developed for us by the Eastman Kodak Co.

Eight Type Sizes from One Font

By this means, the Fotosetter can set eight different sizes of type matter from the same font of matrices and, for the entire range of regular sizes from 6 to 36 pts., only two fonts of matrices are required.

32 Type Faces from 4 Magazines

A Fotosetter, equipped with four magazines and eight lenses can produce 32 different type faces. When you consider that each magazine contains 114 different characters, we have a total of 114 × 32, or 3648 different characters available to the operator.

A Fotosetter has been operating on a field test at the Government Printing Office in Washington since November 1946. The Government Printing Office made up a specimen book of the faces and sizes available on the machine. This machine was equipped with the Garamond series, the Garamond Light and Light Italic, and the Garamond Bold and Bold Italic. These specimens show the different sizes of type which can be set without magazine change. The Government Printing Office has set and printed by offset many nationally distributed booklets.

Summary

To summarize: The Intertype Fotosetter produces:

(1) *Film Positives—a*, either a "right-reading" positive film for use in gravure (the emulsion side is toward the cylinder), or, *b*. a "wrong-reading" positive film for deep-etch offset-lithography, with the emulsion side toward the plate.

(2) *Film Negatives—a*, either a backwards, or "wrong-reading" negative on the emulsion side, reading like a type form, for making albumin plates in lithography, or, *b*, "right-reading" negatives for making photo-engravings, with the emulsion side of the film toward the plate.

(3) *Paper Positives*—for paste-up work in art and layout work for negative-making with line illustrations, or for stipping in with halftone illustrations for lithography, letterpress or gravure.

Thus any printing plate required, either for photo-engraving, offset-lithography or gravure can be made by direct emulsion contact from the film.

Slide Letter Attachment For a Numbering Machine

SOMETIMES numbered jobs are run in series. In such cases it is necessary to run a series letter along with the number. These jobs are not too frequent in some plants, so it sometimes follows a shop will not have a numbering machine that includes the series letters. That was

the case not so long ago in the Harmony-Woodruff, Inc., shop, Sapulpa, Okla.

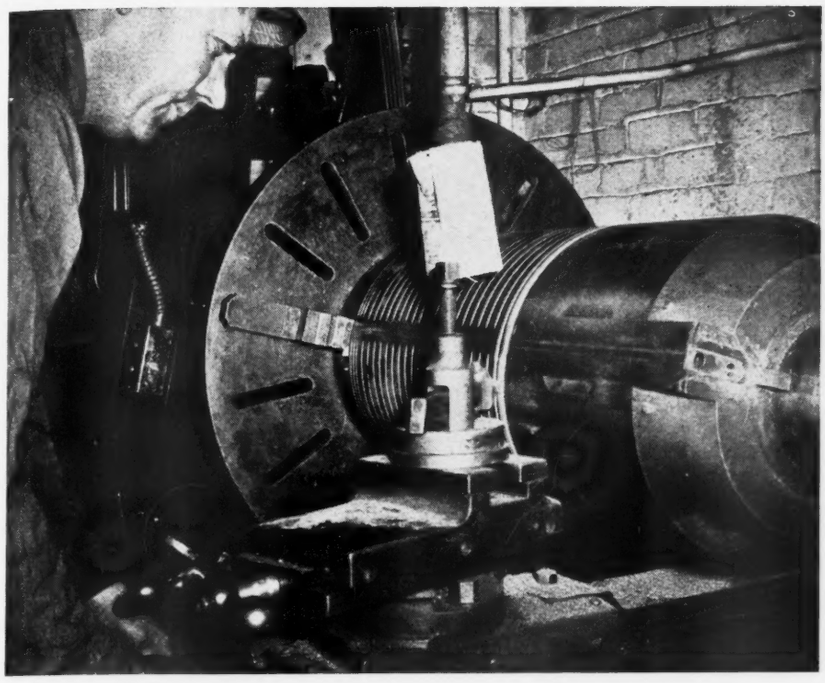
The problem was overcome by fashioning a holder from 2 pt. brass rule as shown in the accompanying sketch. The type for the series letters were cast from an 18 pt. face on a Linotype. The letters were sawed from the slugs to the thickness brought them up to type high when slid into the holder or bracket shown in the sketch, of course trimming the sides to fit into the slide after two edges had been beveled with a file.

Mr. Harmony bent a piece of 2 pt. brass rule to L shape so that when put against the side of the numbering machine the shelf part of the inverted L would be supported by one side of the numbering machine opposite the No. plunger. The shorter portion of the L was partly cut away to provide a projecting piece. The sides of this projecting piece were bent up at an angle and dressed to form a dovetail slot. The letters cast on the Linotype and trimmed to fit could be slid into the groove of the projecting piece of brass rule.

The numbering machine with the vertical part of the letter holder against the side opposite the abbreviation for No. could then be locked up in the form. When it became necessary to change the letter, the piece of slug bearing a new letter was substituted for the one on which the press run had been completed.

Reese Passes

Heart disease took the life of Thomas J. Reese, former Buffalo Branch Manager for International Printing Ink Div. of Interchemical Corp. on February 16, at Fort Lauderdale, Fla. Mr. Reese was 73 years of age. Upon the formation of International Printing Ink Corp. in 1928, Mr. Reese became a vice president of the new firm. In 1937 when IPI became a Division of Interchemical Corporation he was made manager of the IPI Buffalo branch and continued in that capacity until his retirement. His name will be carried on by his son, Thomas J. Reese jr., who succeeded his father as Buffalo branch manager.



One of the Detroit *Free Press* Junior Autoplate cylinders mounted in a lathe in the shop of Charles Mueller & Sons who do *Free Press* large-lathe work. This cylinder is being prepared for metallizing three top ribs and cutting-in two new ribs. Read in the accompanying story Mr. Mier's description of technique used in cutting-in the new ribs.

Autoplate Cylinder Grooves Filled by Metallizing Process

By FERDINAND A. MIER*

**Stereotype Supt., the Detroit* Free Press

DURING the past year when the width of our newsprint rolls was narrowed 1½ in., it necessitated narrowing the width of our stereotype plates ⅜ in. The change in plate width brought the top saw directly over one of the rib grooves in the cylinder (the No. 3 groove) and made it impossible to break the plate from the tail. Past changes in shrinkage and changes in plate size had dropped the saw past the first and second rib grooves of our Junior Autoplates. Not being desirous of using a brass ring to fill in the rib groove, due to the difference in the coefficient of expansion and contraction between brass and cast iron, another method of filling in the grooves that would overcome this problem was used.

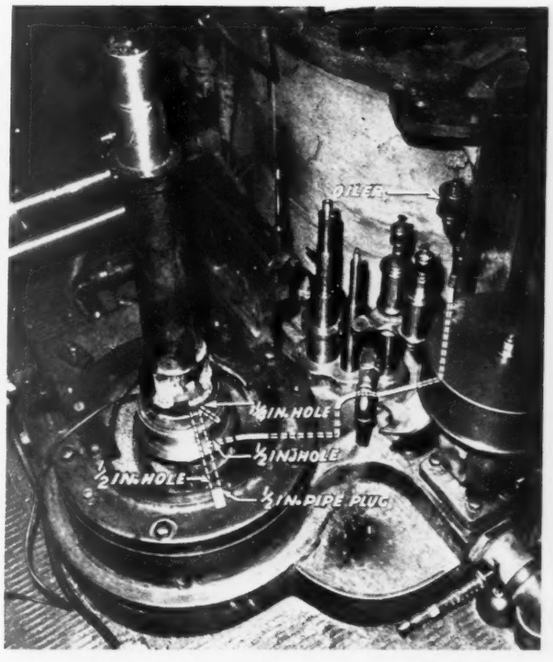
Metallizing, the process of spraying metals upon a prepared surface, was used. The answer to the problem of expansion and contraction was found by using a stainless steel that had thermal characteristics closely approximating that of cast iron used in the Autoplate cylinder. The stainless steel is supplied in wire form and is applied by feeding through a special gun used for metallizing. An advantage of this method is that the cylinder does not have to be brought to a temperature above that of normal operation and the danger of warpage and cracking is eliminated. The spray metal can be machined and is bonded so tightly to the base material (in this case the cast iron cylinder) that it will not break away or crack under severe abuse. I have seen various metallized objects pounded with a heavy sledge without the spray metal separating from the base material.

The cylinder was removed and taken to Chas. Mueller and Sons, machinists. This concern handles our large lathe work and handles metallizing work.

The rib grooves that were to be filled in were deepened slightly and dovetailed at each side as well as being extended so as to completely encircle the core. The bottom of the grooves were prepared for spraying by cutting a screw-type thread to increase the bonding surface for the spray metal.

To strengthen the edge of the plate and to provide a means of preventing the plate edges from being pulled down by the clips on the press, two extra rib grooves were cut into the cylinder below the filled-in grooves. The method of cutting these grooves was original and time-saving. The crossfeed screw of the lathe was removed and hand pressure was used to feed the cutting tool against the cylinder. The length of the grooves was controlled by fastening cams to the cylinder at the point where the matrix holder bar locking cams are installed. An arm was extended from the crossfeed to the cylinder so as to be actuated by the cams. When the end of the groove was reached the cam pushed the cutting tool away from the cylinder. As the arm came off the cam the cutting tool started a new rib groove.

The cylinder section pictured has been in constant daily use for a period of months and the spray metal has shown no sign of check cracks from expansion



This is a view of stripped-down Junior Autoplate in Detroit *Free Press* to permit rebushing axle. The white lines show how gravity lubricating system for the axle was applied. The ¼ pt. drip cup is shown at upper right.

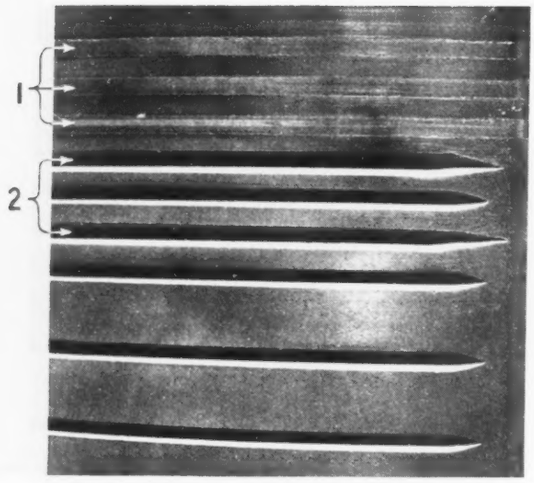


Illustration shows section of Junior Autoplate cylinder, the three top ribs *1* of which were filled in by metallizing process at Detroit *Free Press*. At *2* are shown two new rib grooves which were cut in the core for narrower stereotype plate to accommodate reduced width of newsprint. The saw now cuts centrally of the lower filled-in rib.

and contraction. There has been no change in the cooling at the points where the rib grooves were filled. The tail cools as rapidly at these points as at any other. An examination of the tail shows that the metal directly above the filled-in sections is more solid and has less porosity than the metal adjacent to these areas.

Lubrication for Junior Autoplate Lower Axle Bushing

When we recently installed new bushings on our Junior Autoplate axles a means of continuous lubrication was provided. While the axle was removed to be rebushed, a ½ in. hole was drilled from the bottom of the axle casting to a point opposite the top of the lower bushing. Another hole (¼ in.) was drilled to intersect the ½ in. hole. This ¼ in. hole was located ¼ in. below the top of the bushing and in the middle of an oil ring groove that had been cut into the bushing. Below the bushing and opposite the drain hole in the casting a ½ in. hole was drilled to intersect the ½ in. hole from the bottom of the casting. This hole was tapped to take a brass connection. The ½ in. hole in the bottom of the casting then was plugged and the axle installed. The base of the Autoplate frame was drilled as shown at a point in front of the idler pulley studs so as to intersect the drain. This hole was tapped for a connection and ¼ in. copper tubing was put through into the drain and carried over to the axle connection below the lower bushing. The other end of the tubing was brought over to the frame upright and securely fastened. A ¼ pt. drip oiler was installed and set for 3 drops per min. when tightened down.

Inasmuch as a liquid will seek its own level, the lower bushing has positive lubrication. The oil dripping into the tube forces the oil out of the upper hole in the bushing and maintains a constant film on the bushing surface.

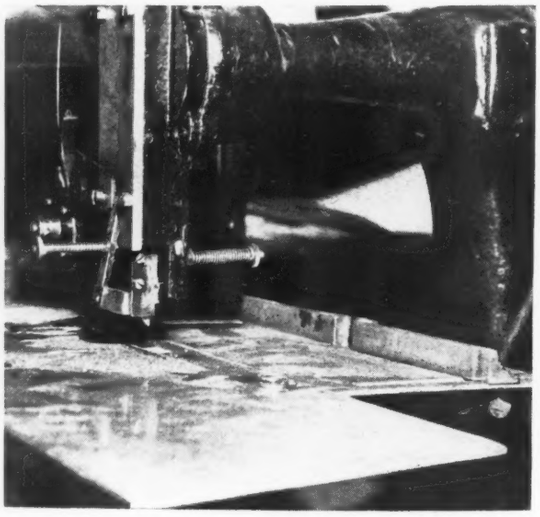
Extension Guide for Stitcher

SOMETIMES a print shop has a job that cannot be done on the stitcher because the guide cannot be pushed back far enough. Cohen Bros., Harrisburg, Pa. had a job like that not long ago —the stitching of a pad on a calendar. The job couldn't be done on the stitcher in this plant until Geo. E. Zeiders, shop foreman, devised an extension guide.

The extension guide was made from Masonite in oblong shape. Two holes, one near each side, were bored near the front edge of the extension guide. By means of these holes the extension could be fastened to the stitcher. In addition, the piece of Masonite was slotted from the front toward the back, the two slots being spaced the exact distance between the two holes in the regular guide on the stitcher.

To use this extension guide, the regular guide was removed from the stitcher and fastened to the extension guide by means of the slots. Then the extension guide was fastened to the stitcher. Since the Masonite is about ⅛ in. thick, the extension guide was easy to fasten in a rigid position.

With the extension guide in place it was an easy matter to adjust the regular guide until it was in the proper position to act as a guide in stitching the pads onto the calendar.



An extension guide for calendar pad work was fitted to the wire stitcher in the plant of Cohen Bros., commercial printers, Harrisburg, Pa. Slotted Masonite board did the trick.

Inland's Typography Contest

Winners in the Ninth Annual Typography Contest, sponsored by the Medill School of Journalism chapter of Sigma Delta Chi, national journalistic fraternity, for the Inland Daily Press Association, were announced at its mid-winter meeting in Chicago.

A total of 110 newspapers, representing over 25 percent of the Inland membership, participated. They were entered in five classes, according to size of circulation, and the five best were selected in each class. Judges were: Walter Howe, director of design and typography, R. R. Donnelley & Sons Co., Chicago; George W. Speyer, manager of the technical production department, J. Walter Thompson Co., Chicago; and Charles L. Allen, director of research and assistant dean of the Medill School of Journalism, Northwestern University.

Awards were presented by Professor Albert A. Sutton, of the Medill School of Journalism and director of the contest. First place awards are as follows:

CLASS A (Up to 5,000 Circulation) First—Columbia (Mo.) *Missourian*; Second—Mexico (Mo.) *Evening Ledger*; Third—Monroe (Wis.) *Evening Times*; Honorable Mention—International Falls (Minn.) *Daily Journal*; Albion (Mich.) *Evening Recorder*.

CLASS B (5,000 to 10,000 Circulation) First—Watertown (S. D.) *Public Opinion*; Second—Winfield (Kans.) *Daily Courier*; Third—Hibbing (Minn.) *Daily Tribune*; Honorable Mention—Peru (Ind.) *Daily Tribune*; Greeley (Colo.) *Daily Tribune*.

CLASS C (10,000 to 25,000 Circulation) First—Rochester (Minn.) *Post-Bulletin*; Second—Iron Mountain (Mich.) *News*; Third—Champaign-Urbana (Ill.) *Courier*; Honorable Mention—Freeport (Ill.) *Journal-Standard*; Alton (Ill.) *Evening Telegraph*.

CLASS D (25,000 to 75,000 Circulation First — Appleton (Wis.) *Post-Crescent*; Second—Pontiac (Mich.) *Daily Press*; Third—Bloomington (Ill.) *Daily Pantagraph*; Honorable Mention—La Crosse (Wis.) *Tribune*; Decatur (Ill.) *Daily Review*.

CLASS E (Over 75,000 Circulation) First—Chicago (Ill.) *Daily News*; Second —Duluth (Minn.) *News-Tribune*; Third —St. Louis (Mo.) *Globe-Democrat*; Honorable Mention—Duluth (Minn.) *Herald*; St. Paul (Minn.) *Dispatch*.

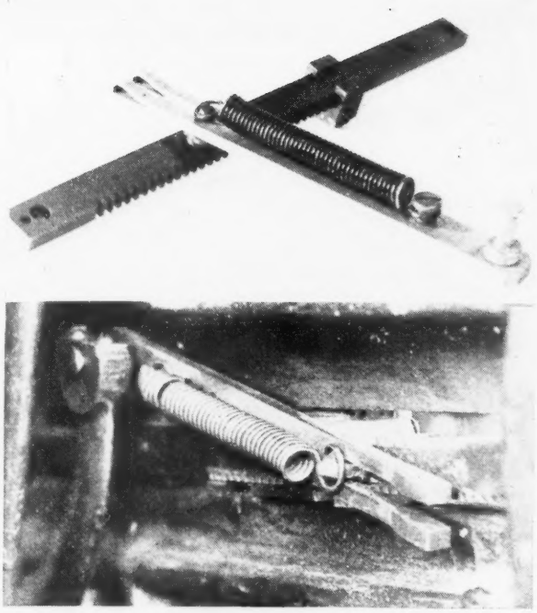


Fig. 1.—Upper view of Droski delivery slide safety link attached to delivery slide bar of a line-composing machine. Lower panel shows the delivery slide making its return stroke to normal position. Attachment of the safety link will be obvious. Any obstruction to return of delivery slide or its seating at normal position will cause the spring to yield.

Delivery Slide-Lever Safety Link

A LINE-COMPOSING machine delivery slide-lever safety link and normal position latching means has been developed and patented by Walter J. Droski, Chief Composing Room Machinist of the Grand Rapids (Mich.) *Press*. The purposes of the safety device are as follows: (1) In case a matrix line is raised to delivery slide position before the delivery slide has returned to normal position, the link connection between slide and delivery lever will yield to prevent breakage of parts; (2) In case the operator's finger should become pinched between the slide and the spaceband box chute, no damage to his finger will occur; (3) When the operator delivers waiting line into the delivery channel, the spring connection on the link assists in bringing the slide to a quiet stop without chattering; (4) In case of an obstruction between slide and spaceband box chute upon the return stroke of the delivery slide, the position of the split lever adjustment on the delivery lever shaft will not be altered.

As will be seen in Fig. 1, Mr. Droski's link is provided with a slotted end where the link engages the delivery lever link screw. The screw itself is headless but carries a groove in which the end loop of the safety spring is engaged. The slotted end (disengaging end) of the link is not only slotted through the end of the link but is also provided with bulged ends to prevent complete disengagement of the link and screw except in cases of extreme obstruction to the seating of the slide upon its return to normal position after delivery of the matrix line to the first elevator.

In Fig. 2 the delivery slide is shown at normal position. It will be noticed that the normal position latch means is mounted on the spaceband box and its chute. The lug on the delivery slide short finger *1* is engaged by a releasing pawl *2* pivoted at *5*. The pawl is freely pivoted on screw *5* so that it operates by gravity. It is mounted on an eccentric collar, encircling screw *5* to permit adjustment of pawl *2* and delivery slide long finger *2* so the pawl will hold the delivery slide securely in normal position. The screw locks the eccentric and serves as a bearing for the releasing pawl *2*.

When the operator raises a matrix line to the delivery slide, release of the slide is accomplished as follows: It will be noticed that the assembling elevator duplex rail (short) lever fulcrum pin *4* extends outwardly to the right directly underneath releasing pin *3*; this releasing pin is spring-mounted in a barrel so that after it has been raised it will automatically return to depressed position as shown in the illustration. Now, when the operator raises the assembling elevator upwardly to the delivery slide, extended pin *4* raises releasing rod *3* the upper end of which in turn raises free end of releasing pawl *2*, thus disengaging delivery slide short finger extension *1* which is now free to convey the matrix line into the delivery channel.

Also pictured in Fig. 2 is Mr. Droski's adjustable assembling elevator duplex rail (long) finger mounted on the assembling elevator duplex rail cap for ease of adjustment.

Mr. Droski states the parts for converting either Intertypes or Linotypes to this style of safety link as well as the normal position pawl may be obtained from him direct. He has also developed a second elevator transfer slide safety link which operates upon the same principle.

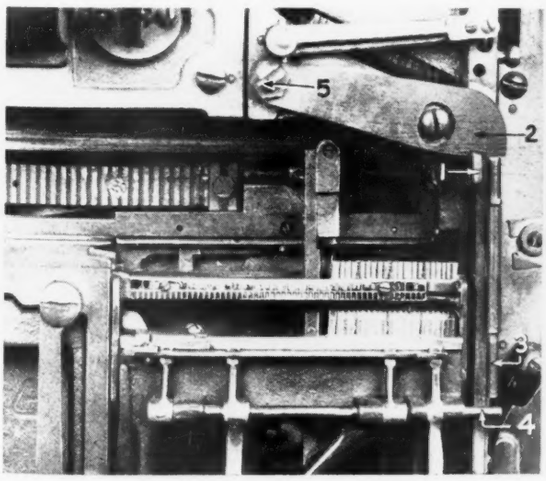


Fig. 2.—View of parts incorporated in Droski line-composing machine delivery slide latching and releasing means. As assembling elevator is raised by operator, extension on fulcrum pin *4* raises rod *3*, the upper end of which raises pawl *2* clear of delivery slide short finger extension *1*, thus permitting the delivery slide to make its casting stroke to the left.

Overloading Floors

As the result of the collapse of a building housing two printing concerns in January, *Imprint*, published by the New York Employing Printers Assoc., calls attention to the danger of overloading floors and the possible activated inspection by the building department of that city. We are calling this to the attention of our readers so that they in turn may check into the load conditions of the floors in their plants, particularly if located in buildings of some age.

Imprint **states: "The method of computing floor stress varies with different types of construction and it is impossible to establish a general formula for checking . . . In general, vigilance should be exercised in checking the condition of the composing room as to storage of type under stones, in galley cabinets, and on "dead" boards. For checking the weight of type, the formula of 2 lb. to each 4 sq. in. of type should be used. Attention also should be given to excessively heavy skids or stacked skids. Frequently they cause overloading."**

EQUIPMENT & SUPPLIES

Harris-Seybold Announces New Size Offset Presses

NEW Harris 42 in. by 58 in. and 50 in. by 72 in. offset presses, have been announced by the Harris-Seybold Co., according to H. A. Porter, Vice President in charge of sales. Major improvements, resulting in increased production efficiency, are simplified adjustments and more precise control of register, moisture, inking, printing pressure, and delivery, it is reported.

Gears in these new single, two, and four-color models are shaved, resulting in quiet, smooth operation and longer life of the machine. These machines are equipped with stream feeders, and are designed to operate at speeds up to 6500 sheets per hour.

Manufacturer states feeding and registering have been greatly improved through the development and addition of a second feed cylinder and a new side register mechanism. This arrangement enables the principal registering and feeding-in devices, such as feed rolls, front stops, side register, etc., to be located above the feed table and well back from the press itself, where their operation can be observed and adjustments for different sizes and thicknesses of stock can be made. The side register mechanism incorporating a pivoting action, compensates for sheets that are trimmed slightly out of square, and protects sheets from being marred or dented at point of register.

It is also announced that better feeding of ink, with less operator attention, has been attained by the installation of a newly designed ink fountain. The blade, instead of being of an angle of approx. 30 deg., is now practically vertical, causing the ink to rest directly upon the fountain roller and to spread evenly along its length. This has eliminated the need for agitators and enables maximum efficiency with either a full or nearly empty ink fountain.

The new style inker is equipped with five small, rapidly revolving vibrating rollers, all of which change direction at different points in the cycle, resulting in better ink breakup and smoother distribution. Vibration is infinitely variable, from zero to maximum, and rollers are arranged to assure maximum inking efficiency. Use of the smaller rollers has also made possible a considerable reduction in the over-all height of the press. Each inking unit now has its own drive connection, direct from the gears on the transfer and delivery cylinders, taking the load away from the printing unit and resulting in increased life of cylinder gears.

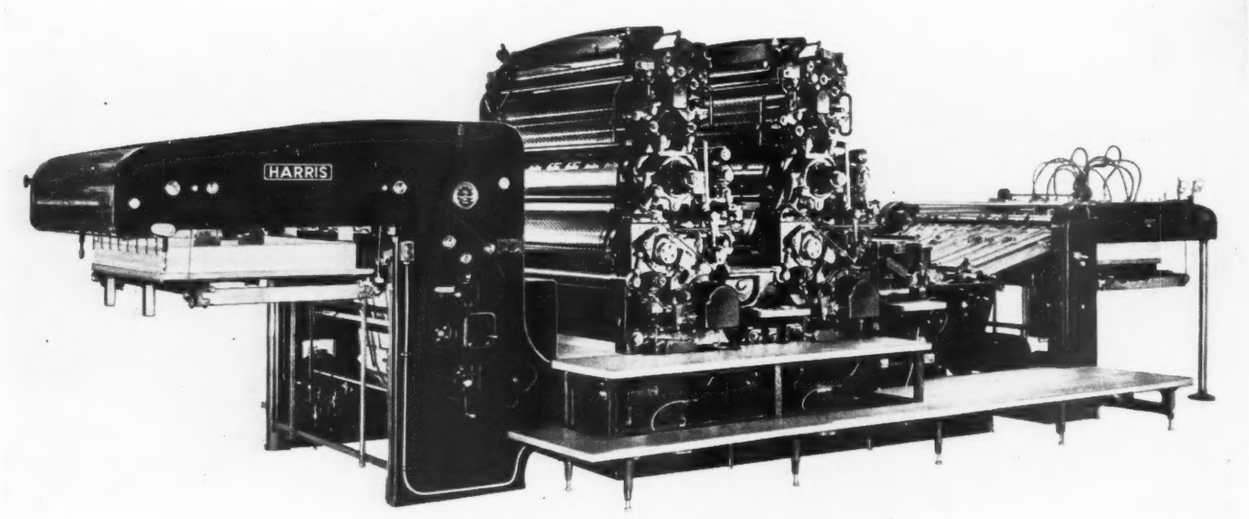
Incorporated in the water fountain are several new design features, it is reported. The speed of the pan roller is fully variable, enabling the operator to select any speed he chooses. The diameter of dampener form rollers has been increased to provide greater rigidity and more even contact with the plate, and squeegee rollers have been installed in place of wipers for better control of moisture at the ends of the form rollers. A new locking device holds the entire dampening unit securely in place, making it an integral part of the press and causing the dampening rollers to maintain constant contact with the plate during operation. In addition, all covered rollers are ball bearing mounted and bearings are packed in grease, thereby eliminating the need for daily lubrication.

Adjustment of pressure between impression and blanket cylinders can be made from —0.005 in. to +0.035 in. A worm gear is said to eliminate backlash and the possibility of losing the pressure setting.

Sheet delivery on these Harris models has been improved by the installation of a new sheet-slowdown system, and a sheet-by-sheet delivery pile lowering mechanism. Slowly rotating vacuum wheels which are adjustable in speed have been utilized to slow sheets down momentarily to eliminate smudging and crumpling. The lowering mechanism is adjustable by thousandths of an inch and is automatically controlled in terms of the thickness of stock being run. Sheet inspection has been facilitated by the installation of a device which permits removal of sheets without disturbing the pile.

Cellulose Gum Substitutes for Gum Arabic

Gum arabic, as old as lithography, and until now one of the necessary supplies in offset-lith, is on the way out. A product of the acacia tree, it is not surprising to learn that it is to be supplanted by a cellulose gum that opens up a field of improvements in coatings and fountain solutions. True handicraft only acquired by painstaking practice and close application and concentration was needed in gumming up with gum arabic. It is not only a desensitizer but also an emulsion promoter and always must be cared for and used very carefully. Tests have shown the new cellulose coating to be superior.



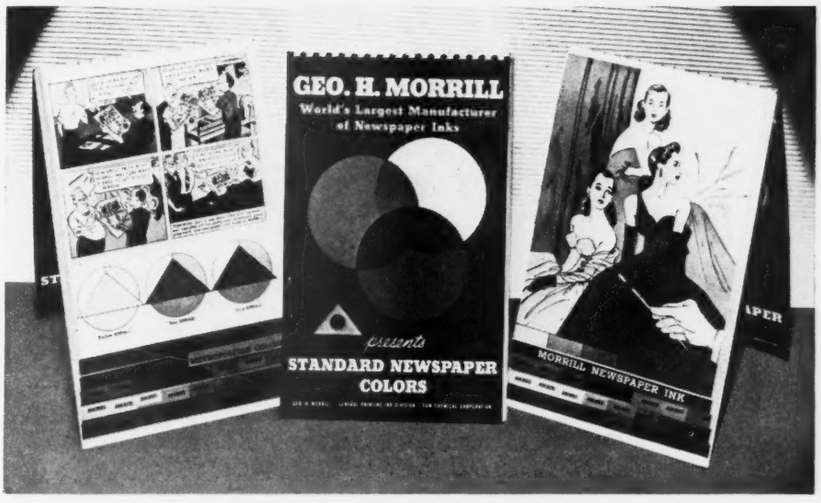
Harris-Seybold Co. announces two new sizes of offset presses—one is 42 in. by 58 in. and the other is 50 in. by 72 in. Made in single, two, and four-color models. Machines, equipped with stream feeders, are designed to operate at 6500 sheets per hour.

Web Press Color Book

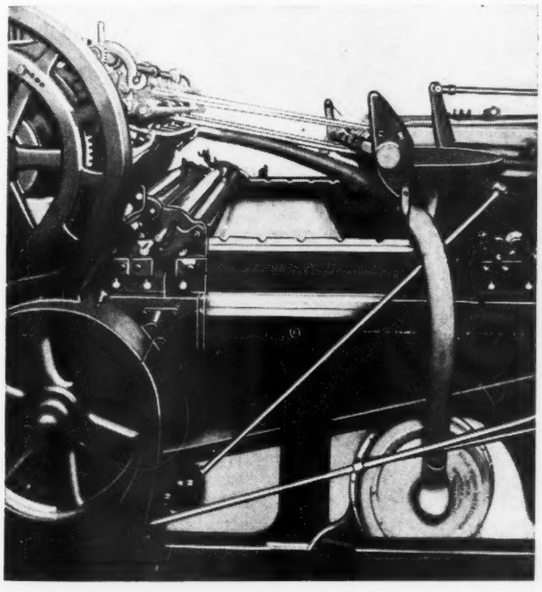
GEO. H. MORRILL-General Printing Ink Div. of Sun Chemical Corp. has issued a specimen book demonstrating that company's newspaper inks in Web Press Colors. These inks, which are for run-of-paper advertising, magazine and comic supplements, and newspaper four-color process printing, are shown in 24 standard colors with clear indication of screen values for each. The selection of these standard colors was made after market studies and discussions with merchandise managers, newspaper publishers, ink chemists and a color authority. The hard board cover is provided with a laminated finish with the design carrying a treatment of the three primary colors and black and white.

Morrill's standard colors for comic and magazine supplements, as well as the standard yellow, red and blue for ANPA and the Metropolitan group are illustrated in comic strip technique.

One of the features in this book is the time-saving color tab arrangement. When the cover is lifted, the complete range can be seen at a glance. In this section, which is devoted to r.o.p. colors, are shown a variety of subjects and art effects. The illustrations were drawn by a leading advertising artist.



In center is shown front cover of Morrill's newspaper ink book—cover is laminated; the three disks are in primary colors. Specimens consist of Metropolitan colors, ANPA colors and Morrill's standard comic colors, as well as r.o.p. advertising colors.



Doyle Vacuum Sheet Cleaner installed on Miehle Printing Press. Stout hose connects motor-driven suction unit to manifold which extends completely across the sheet being fed. Foreign particles removed from paper surface are collected in a bag.

Doyle Vacuum Sheet Cleaner

THE Doyle Vacuum Sheet Cleaner is designed to remove automatically dirt, lint, coating particles or other foreign matter from the paper surface as it is fed into the press. The cleaner is designed for application to any type of cylinder press—letterpress, offset or gravure, web or sheet-fed.

The Doyle Vacuum Sheet Cleaner consists of a high-speed motor-driven suction fan suitably housed in one unit, a small bag for collecting the foreign particles removed from the paper surface, a connecting hose extending from the motor-driven unit and an adjustable manifold extending across the full width of the press. The manifold is provided with graduated openings so that the particles are removed from the paper efficiently.

The suction fan-motor unit may be mounted alongside or within the press frame as desired. As the press cylinder revolves, the suction plays continuously over the surface and edges of the paper being fed to collect and remove all loose particles. On the second revolution of the cylinder on a sheet-fed press all of the dirt remaining on the tympan from the underside of the sheet is collected and removed.

Further information regarding the Doyle Vacuum Sheet Cleaner may be obtained through *Printing Equipment Engineer*.

Pre-Separated Color Bulletins

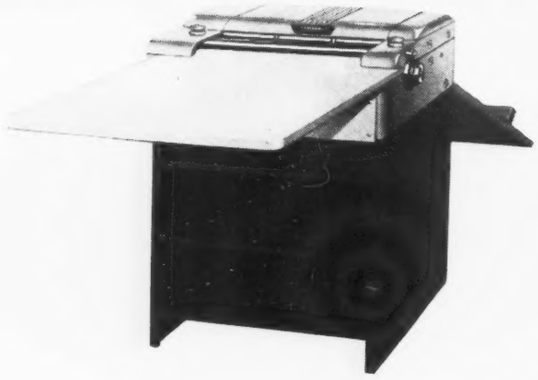
BOURGES, Inc. has issued two bulletins, one of which is illustrated and contains discussion on "How To Prepare Pre-Separated Color Copies with Bourges Colotone Sheets." These are designed to create color schemes that become color copy in every method of reproduction. Colotone sheets are furnished in a variety of colors. Solotone sheets are available in grays and white. Other Bourges specialties are described. This is informative literature, particularly for those interested in straight color work, the color separations for which can be obtained by manipulating the Colotone sheets. Also, the effect to be obtained can be visualized before making the plates. These bulletins will be sent to you direct from Bourges, Inc., or *Printing Equipment Engineer* will pass along your request.

Holite Process Handbook

THE Holite Press (London, Eng.) has issued a revised edition of *The Holite Handbook*. It contains many important changes from the 1939 edition. In it is explained the Holite process for producing matrices and printing plates from plastic sheet materials and for the production of rubber stereos from Holite thermosetting matrices. Booklet contains 36 pages and cover, 4¾ in. by 7⅜ in. Address of The Holite Press is 46 Fleet St., London, EC4, England.

"Twenty-two" Rotary Perforator

F. P. ROSBACK Co. announces the Rosback "Twenty-two" Rotary Perforator. It has been designed to handle a full size folio sheet, either way through the machine, or up to a full size 22 in. width. As many pairs of perforating heads as desired may be used. Machine



View of Rosback "Twenty-two" Rotary Perforator. Takes 22 in. sheet. May be equipped for a number of kinds of work.

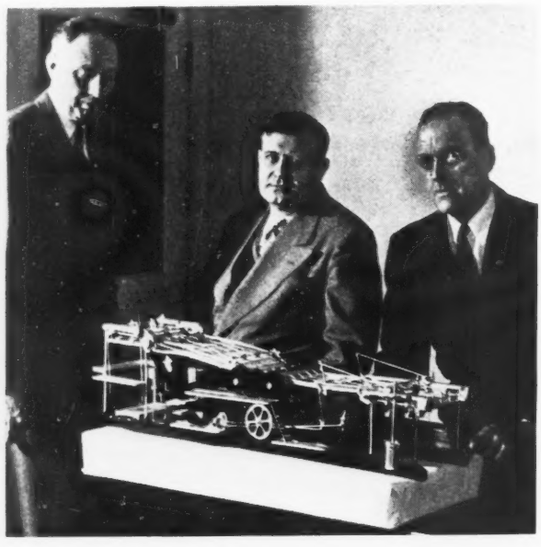
can readily be equipped with special heads for snapout perforating, scoring and creasing.

Manufacturer states strike perforating may be accomplished by a graduated cam controlled by a knob. This knob is shown at upper right in picture. The knob is graduated in inches and fractions for obtaining any length of strike up to 20 in.

Standard equipment includes motor, ¼ h.p., either 110 v., s.ph., a.c., or 115 v., d.c. Also included are two pairs of slot perforating heads, feed table, side guide and layboy.

Height of machine is 38 in., length is 33 in., and width is 28 in.

End frames of upper section supporting the shaft bearings, are of cast iron. Shafts and bearings of ample size. Protecting hood covering perforating heads and other working mechanism is of aluminum. The lower section or base is of welded structural steel.



Pictured with scale model 5/0 two-color Miehle Printing Press used in the National Printing Week observance in Cincinnati, are (left to right): Robert A. Kramer, vice president of A. H. Pugh Printing Co. and president of the Cincinnati Craftsmen's Club; Lee Augustine, vice president of Printing Machinery Co. and chairman of the Printing Week committee, and Carl Heaton, compositor at the Cincinnati Typesetting Co. and builder of the press.

Miniature Miehle Press

First public display of a built-to-scale miniature 5/0 two-color Miehle printing press featured the 1948 National Printing Week observance by the Cincinnati Club of Printing House Craftsmen. The model was on display at the Fifth Third Union Trust Co. in Cincinnati. It was built by Carl Heaton, compositor at the Cincinnati Typesetting Co., for his use during World War II as an instructor in the government's *Training Within Industry* program.

The miniature model made it possible for him to explain fully the operation of a printing press to apprentices.

Complete in every detail, even to a handle for the ink knife, a spray gun attachment and all of the accessories that go on a 5/0 two-color Miehle, the model measures 30 in. long by 10 in. wide by 10 in. high. A few of the parts are made of metal, but the chief material is wood.

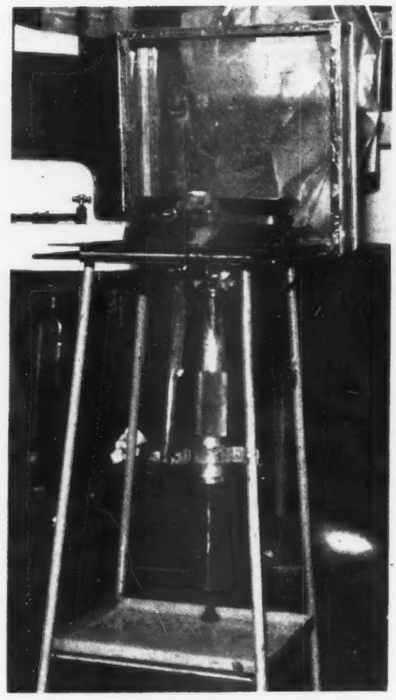
Mr. Heaton, who plans to make the model available for display to Craftsmen's Club and Graphic Arts conferences, built the press in approximately 300 hours of spare time.

Mobile Ink Table

IN many shops proofs are taken on the imposing table. To do it, however, means that a trip must be made to the proof press and back in order to ink the form from which the proof is to be pulled. L. H. Butler, Superintendent of the Harrisburg (Pa.) *Telegraph*, worked out a mobile ink table.

The mobile ink table carries a square top with casters on all four feet so the table can be rolled anywhere in the composing room. To keep the ink from drying out when not in use and also to prevent the collection of dust, there is a hinged cover that fits down over the table. The cover frame is covered with cellophane.

This mobile ink table is provided with a small grease gun mounted underneath the ink table.



This mobile ink table is used in the plant of the Harrisburg (Pa.) ***Telegraph***. It is rolled up to the imposing table when a proof must be taken with planer and mallet directly from the form. The cellophane-covered lid prevents accumulation of dirt and dust on brayer and ink slab. The grease gun is permanently mounted underneath the table to supply ink as needed by turning the handle to release ink through the hole in the bottom of the ink slab.

Executive Staff for Linotype Co.

At the organization meeting of the Board of Directors of the Linotype Company held January 29 the following executive staff was elected: William J. Flather, jr., president; Martin M. Reed, executive vice president and secretary; George A. Schwaninger, treasurer; Arthur J. Mackey, vice president in charge of order division and stock control; George W. Allison, vice president and general works manager; Chauncey H. Griffith, vice president in charge of typographic development; Reginald W. Orcutt, vice president for overseas; Eugene B. Mirovitch, vice president for Latin America; Charles F. Lucek, controller; John W. Reid, assistant secretary and treasurer, and William H. Moore, assistant secretary and treasurer.

The Board of Directors, elected January 14, is as follows: Joseph T. Mackey, Roy C. Gasser, George Hewitt Myers, Victor E. Walker, John R. Fell, William J. Flather, jr., Burnett Walker, Donald H. Sherwood, and Martin M. Reed.

View in commercial pressroom and bindery of Knox Printing and Pub. Co., Hoopeston, Ill. Illumination is entirely artificial, being supplied at constant level by continuous trough type fluorescent fixtures. Firm estimates that more than 50% of work executed in this plant is for out-of-town accounts.

View in the Hoopeston (Ill.) *Chronicle-Herald* composing room. Three Linotype machines are kept busy supplying composition for the newspaper and much of the commercial work. R. H. (Dad) Marvin is composing room foreman. He has been with the *Chronicle* and the present plant for 43 years. Likes makeup and ad composition.

Newspaper and Commercial Plant

expansion program climaxed by open house celebration sponsored by Knox Printing & Pub. Co., Hoopeston, Ill.

MANY visitors inspected the new home of the Hoopeston (Ill.) *Chronicle-Herald*, at its open house celebration, January 29 and 30. The celebration was in observance of the accomplishments of the newspaper in a little more than a year's operation under its present management. Within that time, a $20,000 addition was added to the plant, 416 more pages of news and advertising were published than in the preceding year, and circulation was increased 34 percent.

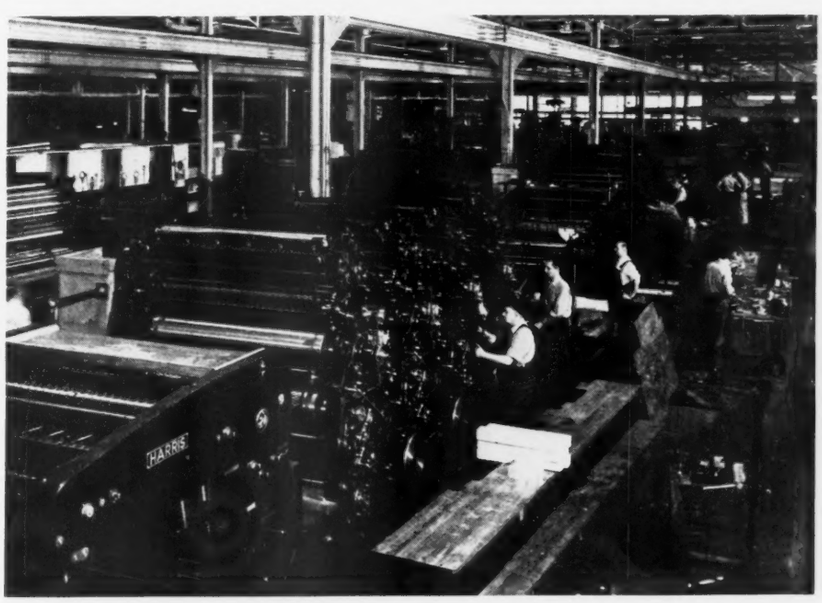
When the Knox Printing & Publishing Co., took over this 72-year-old publication Nov. 1, 1946, the newspaper had been confined to not more than six pages daily for more than 16 years. Within the last year, 12 and 16 page editions were not uncommon and a special Open House edition contained 24 pages, the largest single edition published in more than a quarter century.

Principal objective of A. L. Knox, general manager, Mr. and Mrs. Paul Zook and Edward Trego, stockholders, in acquiring the newspaper was to help build their home community. All are life-long residents of Hoopeston. Previously, Knox operated the Knox Printing Co., a job printing plant that was consolidated with the newspaper's job plant. H. S. Robbins, newspaper and public relations writer in Illinois and New York, N. Y., is editor.

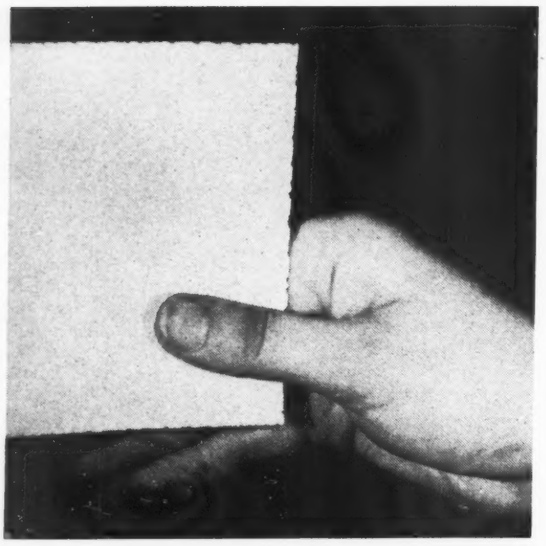
Role of the newspaper in community and civic affairs was stressed in the Open House edition. This edition carried 79 local pictures of the plant, employees, staff, correspondents and carriers. All pictures were produced in the new photographic department which was one of the improvements under the expansion program.

Southwestern Conference

Two important sessions have been scheduled for the second annual convention of the Southwestern Graphic Arts Conference at Oklahoma City, Okla., April 8, 9, and 10 at the Skirvin Hotel. Labor relations will be treated by three speakers. One speaker will outline the application of the Taft-Hartley Act as it may appear at the moment to the printing industry. Another speaker will analyze the general overall situation existing between labor and management in the printing industry. The third speaker will examine the basic and fundamental elements applying to everyday labor relations. Development of school facilities for training competent manpower will be the subjects discussed by three other speakers. Craftsman's Day has been scheduled for Saturday, April 10, under the direction of J. Homer Winkler, Chairman of the Educational Committee of the International Association of Printing House Craftsmen.



Press Production—Four color offset presses near completion on the erecting floor at Harris-Seybold's Cleveland plant. At the time this photo was taken seven new model 458 42 in. by 58 in. Harris presses were in various stages of assembly—this in addition to numerous other sizes and models.



The original of this piece of stock measured 4 in. by 6 in. It is white laid and was deckled with a crosscut hand saw. When such stock is hard to get, the hand saw solves the problem for producing invitations, letter paper and the like.

Deckles Stock With a Hand Saw

A DECKLE edge sets off many a printing job such as business announcements, invitations of some kinds, letter paper for personal correspondence and so on. But deckle edge stock is not always available in the kind and size desired. Because of this, J. N. Schenck, of the Schenck Printery, Hornell, N. Y., deckles stock with an ordinary hand saw.

The stock is taken in lots about 2 in. thick and after straightening it so that it is even all around, it is put between two pieces of wood. The stock with a piece of wood on either side is then put in a bench vise with the side to be deckled uppermost. The vise must be tightly fastened so that in the deckling operation the stock will not slip.

With one hand, generally the right hand holding the handle of the saw, the other hand is used to hold the saw blade. The saw is then drawn over the stock in a series of single strokes at an angle and parallel to each other. In making these strokes, the saw is moved forward and in contact with the stock. After the forward movement the saw is raised up from the stock and brought back toward the operator without contact with the stock. In other words the idea is to make a series of strokes with the saw contacting the stock but the stock is not sawed back and forth as in sawing wood. Just enough pressure is put on the saw as it is moved forward over the stock to cut into the stock slightly. After the entire length of the stock has been scored by the saw moving at an angle over it, the process is repeated but with the saw held at a different angle.

When the stock has been scored a second time but with the saw held at a different angle, then the same process is again repeated but this last time with the saw held at 90 deg. to the stock. This last scoring of the stock will take the saw squarely across the stock.

This completes the deckling of one edge of the stock. To deckle the other edges the process is repeated.

The same imitation of deckling can be done with a table saw, using a fine saw that is adjusted so that the blade extends above the bed of the saw just a trifle. In this case the stock will be fastened between two pieces of wood as before but instead of putting it in a vise, clamps will be used to hold the stock and two pieces of wood tightly together. Then the saw is started and the stock is run over the saw first at one angle, then at another angle and then straight across or at a 90 deg. angle. This will produce the same effect. The bed of the saw must be perfectly clean, otherwise the saw will soil the edge of the stock.

In printing stock deckled in this way a better finished job will be obtained if the stock is first shuffled before printing, just as playing cards are shuffled. In this way the changing pattern in the deckle design will be varied, one sheet from the next, then if left as it is deckled. If this plan is not followed, the deckled stock can be separated into two piles, and in feeding it to the press, a piece can be taken first from one pile and then from the other. This, too, will vary the deckle pattern one piece from the next one and make for a better looking job. If this latter method is used, the printed sheets are, of course, all laid in one pile.

BOOKS

on German Technical Subjects

WATER based gravure and aniline inks, satisfactory offset and letterpress inks containing virtually no drying oils, and a new method of applying pigmented aniline inks are among developments in the German printing ink industry of interest to American manufacturers, according to a report now on sale by the Office of Technical Services, Department of Commerce. The report was prepared by Andries Voet, director of research, Ink Division, J. M. Huber Corp., Brooklyn, N. Y., following an investigation in Germany under OTS sponsorship.

Water based gravure inks were used exclusively in wartime Germany according to Mr. Voet. They were cheaper, required no solvent recovery, and presented no health or fire hazards. They are still used to some extent. Among the disadvantages are: The resulting prints though attractive in their own right have less luster than those made with solvent type inks; use of the inks results in some wear on copper cylinders due to the loosening of abrasive materials from the paper; closer supervision by printers is required but the inks work satisfactorily if properly handled. Mr. Voet cites typical formulations of the water based gravure inks.

Water based aniline inks with water soluble dyes were also developed as a result of wartime shortages, the report states. They worked very well with the unsized, rather absorptive German wartime paper stocks. A sample formulation cited by the author consists of

8 parts of soluble dye,
15 of ethanol,
10 of glycerine,
67 of water.

The inks had excellent working qualities and differ from alcohol based inks only in reduced gloss and rate of solvent evaporation.

During the war drying oils became scarce, with the result that workable offset and letterpress inks were produced with a minimum of oil content. German manufacturers stated that not more than 10 percent linseed oil is required to make excellent offset and letterpress inks. A number of examples of printing inks of this type, including the composition of the varnishes are given in the report.

These may be considered "ersatz" developments, the author states, but a discovery by Dr. Willi Himmelchen of the Siegwerk firm at Siegurg on the subject of pigmented aniline inks is of a different class. Dr. Himmelchen found that most, if not all, of the trouble hitherto experienced with pigmented aniline inks disappeared by using a gravure type of inking cylinder etched with a 150 screen instead of a conventional solid cylinder. Comparative test prints showed a remarkable improvement in sharpness of reproduction by the use of the gravure type of inking mechanism in printing from rubber forms.

Summarizing the general state of the industry in Germany, Mr. Voet reports that the gradual approach of a war economy in Germany from the year 1935 onwards brought fundamental progress virtually to a standstill, although he believes the four developments he describes may prove of interest to American industry.

At present the German printing ink industry has the capacity, if properly organized and given the opportunity, to

resume its formerly important export business, he states.

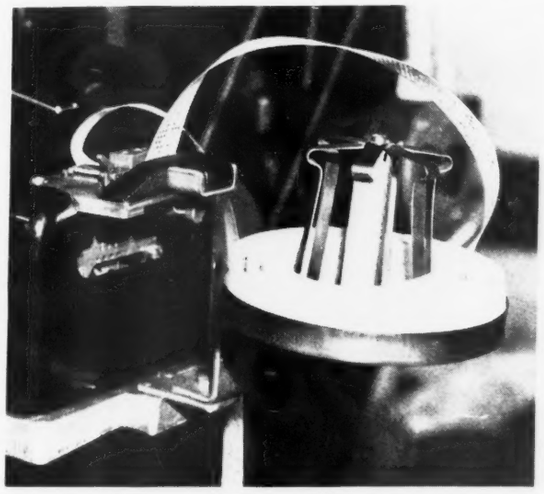
The organization of the industry, chemical research, general problems confronting the industry, equipment, product control, and types of ink produced are discussed in the report.

Mimeographed copies of the report (PB-80385, *The Printing Ink Industry of Germany*) sell for 50c.

In his report Mr. Voet mentions but does not describe in detail a "particularly interesting" two roller mill for grinding ink made by the Joseph Vogel firm at Mannheim. A complete description and a drawing of this mill (and several others) is contained in another report available from OTS (PB-15158, *The Paint, Varnish, and Lacquer Industry of Germany*, mimeographed, $1.75, 66 pages). The report was prepared by Henry O. Farr of the Pittsburgh Plate Glass Co. It describes 11 novel developments in the German industry of interest to American manufacturers including the roller mills.

A British report on the German printing industry (PB-34044, *German Printing Industry*, mimeographed, $1.50; 59 pages) is also available. Among the developments described in the report are: bimetallic printing plates said to be good for a million impressions in printing bank notes, improved processes for deep etching of lithographic plates, wire book sewing machines, heat treatment of cellulose varnish for produce high finish show cards, and several others.

Orders for reports should be addressed to the Office of Technical Services, Department of Commerce, Washington 25, D. C., and should be accompanied by check or money order payable to the Treasurer of the United States.



In the plant of the Wewoka (Okla.) *Times Democrat*, a wooden attachment fitting into Teletypesetter keyboard operating unit tape guide prevents tape sticking in humid weather when tape expands slightly.

When Tape Increases Width

IN damp weather the tape on a Teletypesetter may swell a bit in width so that it is liable to stick going through the tape guide. The trouble occurred in the plant of the Wewoka (Okla.) *Times Democrat* until Carroll Sciance, machinist-operator, devised a little attachment that eliminated the sticking tape. Mr. Sciance made a wooden attachment that fits snugly into the tape guide and had a sort of ear on either side thus furnishing a flat surface over which the tape could run. In damp weather he presses this into the tape guide and lets the tape run over it instead of running in the guide. The machine operates equally as well and the tape feeds without trouble just as when running in the guide.

Perforator Attachment Speeds Up Work 5X

IN the plant of the Commercial Press Co., Cumberland, Md., a 3000-run perforation job was put through a perforator in two and a half hours. That seemed too long a time to Manager James Orr, one of the owners. Shortly after the run above referred to was put through, a repeat order for the same form came through in an edition of 5000. After the form was printed, Mr. Orr decided to try out a simple little gadget idea. He took a piece of wood 2 in. wide and ½ in. thick. Laying a printed sheet on the perforator with one side fed to the guide on the left-hand side of the perforator, he brought the piece of wood close enough to the right-hand side of the sheet to form a right-hand guide. The piece of wood was then fastened to the bed of the perforator.

This gave not a guide to which the sheet was to be fed, but a channel formed by the guide and strip of wood, into which the sheet could be fed. He then took a quantity of printed sheets and laid them on the bed of the perforator somewhat back from the point where they are fed. Then by running his finger down toward the feeding point he spread them out much like a man spreads out his stock to feed a cylinder. It was then an easy matter to feed the sheets to the perforator with a finger covered with a piece of sandpaper or the tip of a rubber glove. The sheets were kept in line because they moved along a channel to the perforator.

This second order for 5000 printed sheets was run through the perforator in 45 min. against a total time of 2½ hr. for the 3000 run of the same sheet made without the added strip of wood.

PNPA Conference To Investigate New Developments

The 1948 Pennsylvania Newspaper Publishers' Association meeting will be held at Benjamin Franklin Hotel, Philadelphia on Friday and Saturday, April 9 and 10. E. O. Davies, Mechanical Supt. of the Harrisburg (Pa.) *Patriot and Evening News*, is chairman of the mechanical committee. Paul V. Driscoll, Mechanical Supt. of the Connellsville (Pa.) *Courier*, is vice chairman.

Some of the speakers on the program are as follows:

Lewis, S. Somers, vice president of the Imperial Type Metal Co., Philadelphia, *What's New in Zink*; D. B. Hollister, Fairchild Camera & Instrument Corp., Jamaica, Long Island; William Prior, Morristown (N. J.) *Daily Record, It's Good Mark-up That Counts*; William J. Easton, Mohr Lino-Saw Co., *Saws—Their Care and Maintenance*; J. L. Carley, Branch Manager, Ralph C. Coxhead Corp., *The Vari-Typer and Its Uses;* L. S. Harris, jr., International Business Machines, *Electromatic Typewriter*; William J. Higgins, William J. Higgins Corp., Charles H. Morris, Morris and Van Wormer, Engineers, New York, *Service Selfish or Unselfish*; J. Harold Mintun, Production Manager, Pittsburgh *Post-Gazette, Roll Reduction to Save Newsprint.*

Talking Books

Veterans Administration hospitals are included in the Library of Congress recorded book service for those unable to use their eyes for reading. Red Cross Gray Ladies assist with the special photographs, which are plugged in by the patients' beds. Classical and popular fiction, magazines, newspapers, and short stories have been recorded on 12-inch discs.

National Blood Program

The Red Cross has a new National Blood Program, which aims to furnish blood and blood derivatives without cost nation-wide when fully expanded.

Family Emergencies

To meet family emergencies during the fiscal year 1946-47, Home Service in Red Cross chapters provided approximately 12 million dollars for financial assistance to servicemen, veterans, and their dependents.

EXECUTIVE ¶s

Joseph Morningstar, President of Morningstar, Nicol, Inc., announced the consolidation of its industrial adhesive manufacturing subsidiaries, Paisley Products, Inc. of Illinois, and Paisley Products, Inc. of New York. Murray Stempel, formerly General Manager of the Chicago Company, has been elected Vice President and General Manager of the consolidated operations. Earl C. Lenz, formerly Sales and Service Manager of the Chicago plant, has been promoted to General Sales Manager. He will also continue to direct the advertising and sales promotional activities of the consolidated operations. L. J. LaBrie, formerly Technical Director, has assumed the position of Sales Manager of the New York plant. Mr. Morningstar also announced that the Hawthorne (N. J.) dextrine plant of Morningstar, Nicol, Inc., is undergoing extensive construction. Ed. Hillary, formerly Sales and Service Manager of the Eastern Division, has been appointed Production Manager, and is in charge of the improvement program, which includes installation of new boilers, processing equipment, and refrigerated storage rooms for production of glues.

At left is Earl C. Lenz, new general manager and at right is L. J. LaBrie, Eastern Sales Manager, both associated with Paisley Products, Inc.

GÖSTA E. CARLSSON, Research Director of The Graphic Arts Research Laboratory, in Stockholm, Sweden, has been touring the United States for several weeks. Major objectives of Mr. Carlsson's visit are trips to Battelle Memorial Institute in Columbus, O., Lithographic Technical Foundation in Chicago and several other research agencies in the United States and Canada. He also visited the Crowell-Collier magazine printing and publishing plant in Springfield, O., the Milwaukee *Journal*, and a number of other commercial and newspaper printing plants. The Graphic Arts Research Foundation in Stockholm of which Mr. Carlsson is director, was established in 1942. At the moment there are approximately 200 contributing printing establishments. The annual subscription is based upon the number of workers in each enterprise. Average subscription recently has been 5 kronor (about $1.50) per worker. No contributions are received from the government. Mr. Carlsson is a graduate of the Royal Institute of Technology in Stockholm. Previously, he has been engaged in research concerning the printability of newsprint and was mechanical superintendent of a daily newspaper plant. Mr. Carlsson related that the program of the Graphic Arts Research Laboratory is comprised mainly of technical research, technical service for members and information service. The laboratory is engaged in long range research as well as short investigations of current technical problems. The main items of the long range research are printability of paper, relationship between printing inks and paper, proper testing of printing inks, surface chemistry in lithographic printing and other objectives.

Gösta E. Carlsson, Research Director, The Graphic Arts Research Laboratory, Stockholm, Sweden, paid a visit in February to the offices of *Printing Equipment Engineer*.

Printing Machinery Co. Observes Fortieth Anniversary — At right, President H. T. Simpson of Printing Machinery Co., Cincinnati, is shown with two veteran employees—Mechanic William Wendelkin (left) and Supt. Elmer F. Noell, who have been with the company 38 years. Included in the fortieth anniversary celebration was a dinner on February 7 at Hotel Gibson. Present in addition to officers were employees with 10 years or more of service and their wives. Company's main products are devices for mounting and registering stereotypes and electrotypes used by commercial and specialty printers. Another product is the PMC die-cutting machine.

According to an announcement by Talbot Patrick, Publisher, Robert C. Butz has joined the Goldsboro (N. C.) *News-Argus* as business manager. Mr. Butz had formerly been with Texas, Louisiana and Mississippi dailies and more recently was southern manager of the Duplex Printing Press Co. with headquarters in New Orleans.

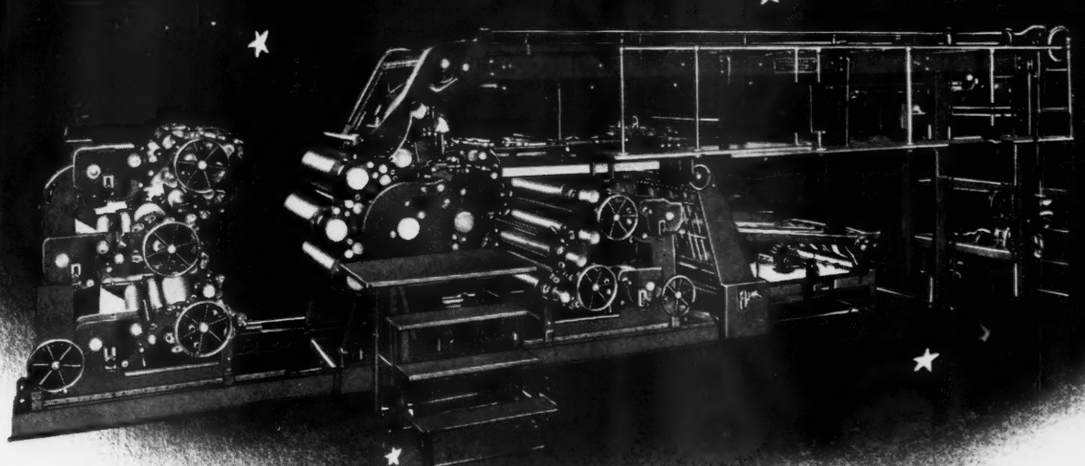
Now Business Manager of Goldsboro (N.C.) *News-Argus* is Robert C. Butz.

Built For True Economy

The Cottrell 5-color Rotary is designed to and does deliver, quality color printing at exceptionally high speeds and with a maximum net production.

These characteristics combine to result in dependable operating profits.

... in Color Printing



Cottrell

C. B. COTTRELL & SONS CO.

Westerly, Rhode Island

New York: 25 E. 26th St. • Clayburn Division: 3713 N. Humboldt Ave., Milwaukee, Wis.
Chicago: Daily News Bldg., 400 W. Madison St. • Smyth-Horne, Ltd., 13 Bedford Row, London W.C. 1, Eng.

E. D. Becker, Publisher of the Pittsburgh *Sun-Telegraph*, and John J. Shea, General Production Director of Hearst Newspapers, have announced the appointment of Andrew R. Mervick as Production Manager of the *Sun-Telegraph*.

Andrew R. Mervick (left) and George Brenner, new production manager and composing room Supt., respectively, of the Pittsburgh *Sun-Telegraph*.

He has been associated with the *Sun-Telegraph* in various capacities for the past 22 years, the last 10 years as Composing Room Superintendent. George Brenner, who has been Night Foreman of the *Sun-Telegraph* Composing Room for 10 years, has been appointed Superintendent, to succeed Mr. Mervick.

The appointment of William J. Hogan as manager of the New York office of the Miehle Printing Press & Mfg. Co. has just been announced by Carlton Mellick, Vice President in Charge of Sales. Mr. Hogan has been with the Miehle Company for twenty-three years, and much of this time has been spent in the Offset Division. In addition Mr. Hogan will also have complete charge of offset press sales for the entire eastern part of the United States.

Wm. J. Hogan, manager of Miehle's New York office.

Frederick R. Griffiths of John Griffiths Co. Inc., printing machinery dealers of New York, N. Y., and Poughkeepsie, N. Y., is making an extensive trip through South America to study the Graphic Arts industries. He will visit newspaper plants in Rio de Janeiro, Sao Paulo, Caracas, La Paz and Guayaquil where daily newspapers are being printed from presses supplied by his company. The John Griffiths Co. has been identified with exporting and installing complete newspaper pressrooms abroad since it was founded in 1920 by the late John Griffiths, sr.

Frank Milne, for a long time mechanical superintendent of the Calgary (Alta., Can.) *Herald*, announced his retirement from active duty recently.

Charles J. Stupka was named sales manager last January of Intertype's midwestern organization and has undertaken his new duties as a member of Manager John S. Plummer's staff in the Chicago office. Mr. Stupka contacted midwestern printers during several years of service as an Intertype representative in six states. He later represented the corporation in South Dakota, Wyoming, Iowa, Nebraska and the southern half of Cook County in Illinois.

Charles J. Stupka, announces Intertype, is sales manager for the Mid-Western territory.

J. H. Shaw has been appointed sales representative for the Dayco Roller Div., according to an announcement made by the Dayton Rubber Co., Dayton, O. He replaces Steve Gumola who recently resigned. Shaw's territory comprises Michigan, northern Indiana, northern Ohio and western Pennsylvania, embracing the Toledo, Cleveland and Pittsburgh areas. His headquarters will be at the Detroit branch office of Dayton Rubber, 5327 Grand River Blvd. Shaw spent 16 years as a pressman.

J. H. Shaw is shown at right. He's representing Dayco in middle-west territory.

Type Man of the Year

Oscar Hoffman has been selected Type Man of 1947. The award, according to *The Trade Compositor*, was made on the basis of being the person who contributed most during the year to promote the welfare and progress of the typographic composition industry. Hoffman is president of the Superior Typesetting Co., St. Louis. He is also president of the International Typographic Composition Association. He is now serving his second term. His fellow members regard him as a real leader. Through his influence, the ITCA has been made an instrument of service to its members and to the trade as a whole. His company's existence dates from 1927. In 1945 he qualified for private pilot's license. His son Earl was a pilot in World War II. Both are known as the flying typesetters.

Polio Nurses

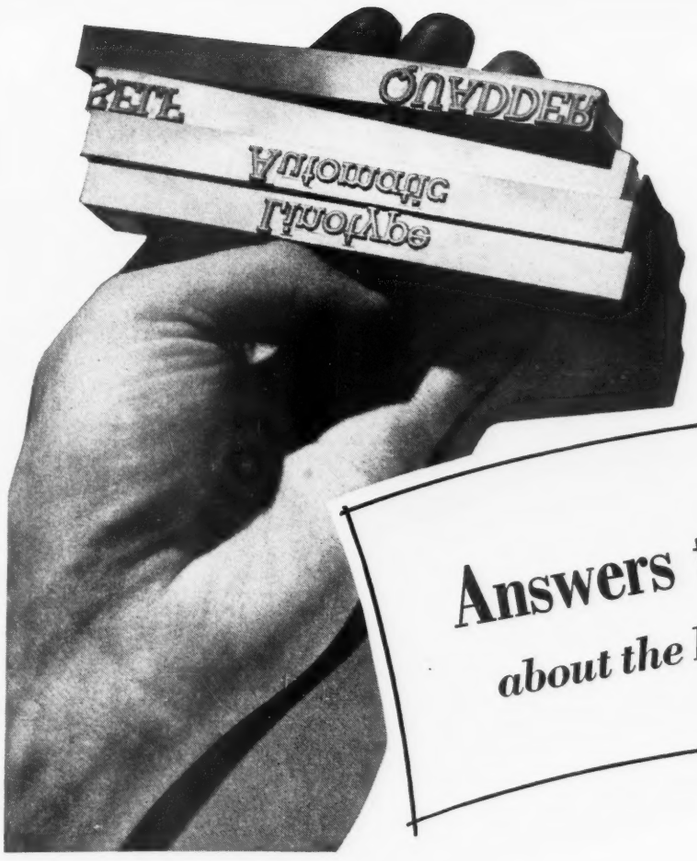
The American Red Cross last year recruited 2564 nurses to aid in the fight against the polio epidemic.

Change of Name Indicates Changed Nature of the Work

CHANGES in names of organizations sometimes are necessary because the complexion of the industry has changed. Such is the case with the International Typographic Composition Association. Up until early last fall, the word "Trade" was used in the name of the Association, and had been for many years. At its Detroit convention the word "Typographic" was substituted for the word "Trade."

When this organization was first formed, the average trade typesetter did plain composition in galley form for printing plants. Thus, at that time, the word "Trade Composition" was an expressive term. As time passed, the trade compositor became a self-contained composing room, the principal volume of his business now being to design, lay out and furnish completely made up typography in the form of reproduction proofs for photo-mechanical platemaking purposes and/or made up forms ready for the press to be printed from direct, or from which stereotypes, electrotypes or plastic plates can be made.

The membership of the ITCA now thinks of itself as an organization of typographers and trade and commercial composition houses serving printers and lithographers, book and periodical publishers, advertising agencies and other users of typesetting in its varied forms. Through cooperative effort, its membership seeks to establish and maintain fair customs and practices within their trade, improve the quality and scope of their respective services, deal ethically with their customers and with each other, in order to promote the general progress of the industry.



Answers to your Questions

about the Linotype Self-Quadder

EVERY composing room wants profitable production. In the seeking, many have found the Linotype Self-Quadder a valuable time-saver for certain types of work. We have attempted to show some of the gratifying results obtained in our advertising from time to time. But every week brings new inquiries and questions. The following are the most often asked. Our answers may be helpful in determining the application of the Self-Quadder to your own needs.

1. ***I've heard say that your Self-Quadder saves up to 50% of composition costs.***

A. The Self-Quadder more than earns its keep when copy calls for short lines to be centered or quadded right or left. When this is the case, there's no counting or filling in. The operator doesn't even touch the quad key. He simply flips the Selector handle and the line is automatically quadded without any further thought or action on his part.

2. ***Does the Linotype Self-Quadder limit the length of the line or the number of spacebands that can be used?***

A. The Self-Quadder works equally effectively with a line containing only one or two matrices, or with a line that is almost full. It works with or without spacebands —they merely act as spaces.

3. ***Does the Self-Quadder limit the efficiency of the Linotype in setting straight matter?***

A. The Self-Quadder is a plus factor. When the Selector handle is set in the "regular" position, the Linotype operates as it would under normal circumstances. But when the copy calls for right or left quadding or centering, the Self-Quadder is ready and waiting to save the operator's time.

4. ***What happens when no matrices are in line and the Quadder Selector handle is operated?***

A. When the machine is operated, the jaws simply close and a blank slug is cast.

5. ***How about maintenance? Doesn't the Quadder require specialized mechanical knowledge?***

A. Like other precision equipment, the Self-Quadder cannot be handled roughly. Yet regular cleaning and routine care are all that are necessary to keep it in top-notch operating order. Any operator or machinist following the Quadder Manual will find maintenance simple and easy.

6. ***Can I have a Linotype Self-Quadder installed on my present machine?***

A. Sorry, but the Self-Quadder is not an attachment. It is precision-built into new Linotypes at the factory as an integral unit, when the order so specifies.

MERGENTHALER LINOTYPE COMPANY
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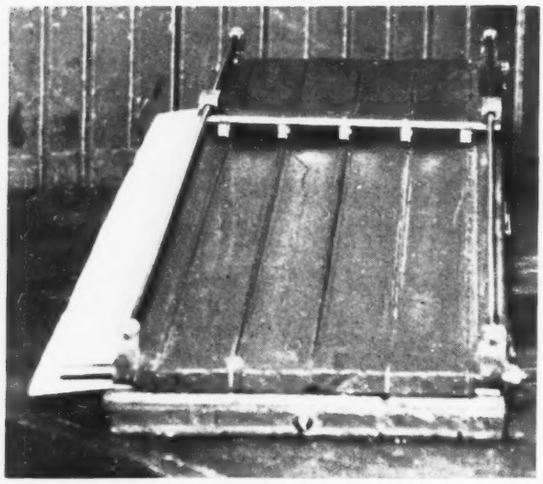
LINOTYPE

Linotype Baskerville Family with Bodoni Bold



Mailing Galley Strip Cutter—In plant of the Cumberland (Md.) *Times News*, addresses for subscribers are set on the Linotype 9 picas wide, four columns to the galley. This device is used to cut four even strips from each galley proof. Strips are then ready to be pasted endwise ready for the mailing machine. The cross bar (with the four blocks) carries three safety razor blades with which the cutting is done.

Gadget for Cutting Mailer Strips

IT is quite a chore in the smaller mailing room to cut up by hand the galley proofs of subscriber names every day or every week and get them ready for the mailer. In the mailing room of the Cumberland (Md.) *Times News* a gadget was devised by J. K. Mooney, Production Manager, and made by Cecil Grimshaw, the mechanic, which reduces preparatory work.

The base of the gadget consists of a piece of wood a trifle larger than the paper on which galley proofs of the mailing list are pulled. This piece of wood has three parallel grooves cut into it each an equal distance apart and of the width that the mailing lists are to be cut. A thin wire is fastened at either end of the board so it will rest in the center groove.

To this base piece of wood there is hinged at one side a frame of the same side as the bottom but made of four strips of wood, each strip being of the width of a mailing list of names. These strips are fastened together at top and bottom, a metal washer being put between the pieces so as to separate them a trifle.

Down each side of the hinged cover there is fastened a piece of metal rod, raised about ½ in. A wood strip about 1½ in. wide and long enough to extend from side to side (or from rod to rod) is fitted with guides on both ends that hold it bearing pieces on the metal rods previously mentioned. Fitted into the underside of this piece of wood are three wooden blocks to each of which are fastened three razor blades, each located so that it rides through the space between two of the strips in the upper portion of this gadget.

Subscriber addresses in this plant are set Linotype on 9 pica measure, there being four columns to a galley. The galley proofs are pulled and then the proofs are laid one by one on the base of the gadget. In placing them on this bottom board the proof is put under the wire in the center groove so the wire comes exactly in the middle of the center space between columns two and three. The wire will hold the proof in place. The cover is then lowered on the proof. Starting at the top, the wooden crossbar with the razor blades fastened to the underside is drawn down the board. As it is drawn down, the razor blades cut the galley proof into four strips all ready for the mailer.

In using the gadget there is no danger of cutting into the addresses as may occur when this work is done by the scissors method.

ANPA

MECHANICAL CONFERENCE

Exhibits . . .

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TECHNICAL BOOKS

The books listed below may be ordered through Printing Equipment Engineer, 1276 W. Third St., Cleveland 13, Ohio. Because of narrow handling margin, please send remittance with order.

GENERAL

MATERIALS HANDLING—By Harry E. Stocker. This book is of vital interest to mechanical and production executives in printing and publishing plants. While not written specifically as a treatise on materials handling in the printing plant, yet a great deal of its text will be of value in the handling of materials in the plant and out-going shipments from the plant. Bound in light buckram, 309 pages, many illustrations, size 6 in. by 9¼ in. Price $5.35 plus 25c postage and handling.

HOW TO HANDLE COLLECTIVE BARGAINING NEGOTIATIONS—Report based on a survey conducted by the National Foremen's Institute. Points out errors and fallacies which have tripped management in the past and how to avoid these mistakes in the future. Multon binder. 42 sheets, 9½ by 11½ in., $5.00 plus 25c postage and handling.

HOW TO HANDLE LABOR GRIEVANCES—By Dr. John A. Lapp. Dr. Lapp discusses a practical treatment in the five part manual. Titles of the parts are: Background and History of Grievance Procedures; Grievances and How to Deal With Them; Grievance Procedures in Selected Industries; and Problems of Grievance Procedures. Bound in buckram cloth, 294 pages, 5½ by 8 in., $4.00 plus 25c postage and handling.

INDUSTRIAL ELECTRONICS MAINTENANCE—An elementary explanation of the elementals of electronic circuits and devices, many of which are adaptable to the production operation of equipment. Among these are motor drives and controls, relays and measuring circuits, regulators, servo systems and automatic machinery controls. By R. C. Roetger. Size, 5½ in. by 8¼ in.; blue crash cloth, gold stamped titles; 190 pages; well illustrated. Price, $3.50 per copy plus 25c postage and handling charge.

STANDARD BOOK ON ESTIMATING FOR PRINTERS—By Fred W. Hoch. A book on the mechanics of printing plus estimating schedules, including chapters on estimator's work, paper, slug composition and trade typesetting, monotype composition and copyfitting, hand composition and page makeup, imposition and lock-up, presswork, makeready, press-running, two-color flatbed, flatbed, perfecting presses and process printing, ink and bronzing, cutting, folding, stitching and trimming, miscellaneous bindery operations, art work, engraving, electrotypes. 268 pages, 6 in. by 9½ in., 97 reference tables, 26 diagrams and forms, 7 graphs and charts. $3.75 per copy plus 25c postage and handling.

ART AND TECHNIQUE OF PHOTO-ENGRAVING—By Julien J. Soubiran. Steps for the production of engravings are explained for the buyer of engravings or those who should be familiar with the process. Described are the types of photo-engravings, surprinting, copy preparation, color progressives, benday values and tone charts. Size 5½ by 7¾ in., 88 pages, $1.50 plus 25c postage and handling.

STEREOTYPE

MANUAL OF STEREOTYPING—By Joseph Goggin. This 256-page book conveys technical information and manipulating procedure. Written by a practical stereotyper. Price $5 cash with order, plus 25c postage and handling.

OFFSET-LITH

LITHOGRAPHERS MANUAL—Compiled by Walter E. Soderstrom. Second revised edition. Technical information from copy to finished jobs. Nationally known technical men contributed the bulk of practical camera, platemaking and presswork information. Size 8½ in. by 11¼ in. Bound in red cloth, gold stamped. Many of the 368 pages are illustrated. Price $5 per copy plus 25c postage and handling.

THE SINGLE COLOR OFFSET PRESS—By I. H. Sayre. The purpose of this book is to offer a detailed technical explanation of the operation of the small single color offset printing press. It also carries recommendations for approved methods of printing technique and press care which apply to all offset printing. Much of the technical operating information applies to all makes of small offset presses. Illustrated with 99 figures in line and halftone; 284 pages; size, 6 in. by 9¼ in.; bound in blue cloth, cream stamped lettering. Price $6 plus 25c postage and handling.

PHOTOGRAPHY AND PLATEMAKING FOR PHOTO-LITHOGRAPHY—By I. H. Sayre. This is an instruction book and an encyclopedia, both for the beginner and the experienced offset-lith platemaker. Revised edition. Illustrated. New section on color process platemaking techniques included. Price $6.50, plus 25c postage and handling.

PRESSROOM

PRESSROOM PROBLEMS AND ANSWERS—By Fred W. Hoch. Might be considered a miniature encyclopedia since it contains answers to 334 pressroom problems which have been answered by Mr. Hoch. Written in language of journeyman pressman. Pressmen, production men, paper and ink manufacturers, electrotypers and photo-engravers will find this book of high utility when pressroom problems arise in which tendency is to lay blame on furnished materials used in pressroom production. Size, 6 in. by 9½ in., 258 pages, gold stamped blue cloth. Price, $3.50, plus 25c postage and handling.

HOW TO ADJUST WORK-UPS—By Wm. H. Lichter and Geo. F. Smalley. Booklet consists of 24 pages in which are analyzed and remedies are given for prevention and–or elimination of work-ups. Material written as result of actual plant experience. Size, 5¼ in. by 7¼ in. Price, $1 per copy plus 25c postage and handling.

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Patents For The GRAPHIC ARTS FIELD

Covering patents issued January 6, January 13, January 20, January 27, and February 3.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating

2,434,502. METHOD AND MECHANISM FOR SECURING END LEAVES AND CRASH TO BOOK COVERS. A paper bound book is made which has a reinforcing super or crash secured to both the paper cover and the book in such a way that it reinforces the back of the book and minimizes chance of breakage of the cover near its hinge. Two V-shaped end sheets are inserted between the book and the cover. These end sheets are formed of a piece of paper folded in two parts, one part forming the fly leaf and the other part being glued securely to the inner face of the cover. The strip of crash, made of a starch-coated open mesh cloth is held in place across the back of the book by means of the glue that attaches one part of the end sheet to the cover. In the process two continuous strips of end sheet paper may be folded in the standard way and then assembled with a continuous strip of crash underneath. Previously cut covers are pasted thereto. The folds of the end sheets face inwardly and are spaced at the correct distance, so that the book may be put in place and glued only to the crash. This procedure may be carried out continuously by feeding the covers in a correct spacing into association with the end sheets after glue has been applied either to the covers or to the underfaces of the traveling end sheets. After the end sheets and crash have been attached to the covers, the ends of the cover and the crash are severed along the lines spacing the covers. Finally the various parts may be further trimmed. In this construction the crash is concealed between the cover and the attached end sheet portion, which was glued to the inner face of the cover and so cannot be seen when the book is opened. Invented by Kenneth Payne Martin, Lancaster, Mass., and Walter Paul Rowland, Clinton, Mass. Assigned to The Colonial Press, Inc., Clinton, Mass. Application May 4, 1945. 15 claims.

2,434,624. PERFORATOR FOR A CYLINDER PRINTING PRESS. See description of this invention under "Printing Presses and Equipment" heading.

Composing Room Equipment

During the five weeks covered by this report, no patents have been issued for this heading.

Feeding, Folding, and Delivery

2,434,128. WEB GUIDING APPARATUS automatically aligns the edges of paper, cloth, and like webs during high speed winding or rewinding from one roll to another. Apparatus includes a supply roll and associated guide rollers, a tension roller, and a winding roll. The latter is shiftable simultaneously in its bearings with the tension roller to axially shift the winder and tensioner relative to the supply roll axis, thereby to maintain the paper in alignment on the winding roll. The shifting of the winding roll and its associated tension roller is accomplished by a linkage arrangement between them and a regulator apparatus. This apparatus consists of an air-tight vacuum chamber connected with a vacuum pump and a boxlike head having an orifice which is also in the vacuum system. The boxlike head is positioned immediately forward of the winding roll and in such a manner that the orifice is partially covered by the paper web. Any deviation of the web during winding tends to open or close the orifice. This causes variations in pressure which act upon a diaphragm in the vacuum chamber. The response of the

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diaphragm to these variations in the pressure brings about, through the linkage, the regulatory shifting of the winding roll and its associated tension roller. Invented by William T. Stanford. Salem, Ill. Unassigned. Application April 11, 1945. 4 claims.

2,434,530. **SHEET FEEDING APPARATUS** effects the preliminary separation of a corner portion or portions of the topmost sheet of a pile of sheets without imparting any movement thereto and without in any way disfiguring the sheet. The sheets of a pile are acted upon one after another by suction cups which engage opposite rear corner portions of each successive sheet and lift the rear edge above the level of the pile. Suction devices are carried on arms, pivotally mounted in casings, for rocking movement toward and away from the top of the pile by cams. Vacuum is created and broken at intervals in the suction devices to cause them to grip and thereafter to release each sheet as it is engaged by a sheet forwarding device which moves the sheet from the pile to a conveyor which advances the sheet to a printing press or the like. To insure that only the top sheet of a pile of sheets is lifted by the suction devices, preliminary separation of the sheets is accomplished by hollow air boxes arranged at opposite rear corners and adjacent the top of the pile of sheets. Two slots extend vertically of the air boxes and vertically of the plane of the sheets in the pile. The slots provide strong, thin elongated jets of air. The slots are of such length that, when box is in proper relation to effectively separate the sheets, the lower ends of the slots are approximately three-quarters inch below the top of the pile and the upper ends of the slots are approximately three-eighths inch above the level of the pile. Air under pressure is delivered to the air boxes in timed relation with the operation of the suction devices. Invented by Leo C. Williams, Pearl River, N. Y. Assigned to Dexter Folder Company, Pearl River, N. Y. Application June 1, 1944. 17 claims.

2,435,376. **PAPER JOINING MACHINE** permits a new web of paper to be joined to an expiring web without stopping the presses and produces a strong lap joint between the two webs leaving no loose, trailing ends. A carrier for the paper rolls is mounted in a braced framework, its normal position being vertical with the new roll on the bottom and the expiring roll above it. A number of rollers opposite the carrier are mounted for rotation in a bar which in turn is adapted to slide vertically in suitable guides on vertical supports of the framewoork. Paper from the carrier passes through these rolls before it is fed to the press. Thus slowing of the press or an acceleration of the supply roll provides an excess of paper between the supply roll and the press so that the press will continue to function for a limited time despite stoppage of supply. A pivoted arm has a flat plate at one end provided with perforations communicating with an air pump. Associated with this arm is a knife having an actuating arm driven by a solenoid. The arm has a heating element and is arranged to be moved downward until it rests on the flat face of the perforated plate. Edge of paper from new web is carried over a roller and positioned on the plate where it is held by low pressure created by the pump. Adhesive is applied to upper side of the paper on the plate. Arm having perforated plate, is moved upwards to a position such that the face of its plate is parallel with and very close to the expiring web on the carrier. A brake is applied to the expiring roll to stop it. When expiring web has ceased to move, the arm associated with the knife is forced down and its heat and pressure combine to unite old and new webs in one to two seconds. The knife severs the old web, and arm is immediately lifted away from the paper by a spring so that air is admitted freeing paper from the plate. The roll is rotated somewhat to overcome inertia as the new web starts through the machine. The carrier is turned counterclockwise on a pivot until the new roll is at the top and the expiring roll, now at the bottom, is replaced. Invented by Kenneth H. Wilcoxon, Cabin John, Md. Unassigned. Application September 18, 1944. 3 claims.

2,435,408. **WEB DRIER WITH ZIG-ZAG PATH** conveys a web through passageways arranged to provide a flow of heated air opposite to the travel of the web thereby to obtain the desired heating and drying effect. One end wall of a closed compartment has an entrance slot at its top for a web of cloth and the opposite wall has an outlet slot near the bottom. Two vertical rows of rolls rotatable on horizontal axes are respectively adjacent the two end walls. Baffles in the compartment are secured to the two opposite side walls. Each successive

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baffle is also attached alternately to one end wall and extends at an inclined angle to the longitudinal axis of the roll adjacent the opposite end wall. Baffles thus provide approximately horizontal passageways connected at their ends adjacent the two rows of rolls. A bottom baffle extends between the side walls but terminates at a distance from both end walls under the lowermost path of the web and above the heating means. Air enters the lower portion of the compartment and is heated by a continuous two layer conduit for steam that runs parallel to and under the rolls and is provided with radiating fins. Invented by Alphonse Rancourt, Pittsfield, Mass. Assigned to Bradford C. Dennis, Pittsfield, Mass. Application October 4, 1946. 1 claim.

Miscellaneous

2,434,013. PROCESS OF PRINTING TEXTILES WITH A POWDERED BLANKET utilizes a finely divided powder such as bentonite, karayo gum, locust bean gum, etc., that is applied to the surface of a continuous printing blanket. Color is then applied to the textile while the textile is superposed upon the blanket. The coloring matter is applied in such quantities that surplus color passes through the textile to the blanket or is deposited on the edges of the blanket. The powder on the blanket absorbs excess color in the printing step and excess color is removed with the powder during the washing. Moisture on the blanket after washing is absorbed by added powder as the cycle is repeated. "Poor fit," sometimes caused by seizing of textile on blanket, is obviated and the powder also prevents abrasion. Invented by William C. Ross, Winchester, Mass. Assigned to Dewey and Almy Chemical Company, North Cambridge, Mass. Application September 12, 1944. 5 claims.

2,435,175. FLICKERING BEAM SPECTROPHOTOMETER measures the phenomenon of chromatic surface reflectance at various angles of bronze in pigments, inks, and the like. The ink manufacturer is concerned with bronze of various pigments, such as alkali blue, because inks and surfaces colored therewith are often viewed at an angle at which the surface reflection is an important factor. Measurements of bronze cannot be made by the ordinary flickering beam spectrophotometer, and so modifications are proposed. An inclined air-ink glass-ink surface is interposed in the sample beam and the specularly reflected light is turned so as to resume the same course as the original beam. The beam from the bronze surface reflection then enters an integrating sphere and the spectrophotometer measures the color of the bronze. The method of reflecting light from the ink-air or ink-glass surface and redirecting the reflected light to a path coincident with the original path may utilize various organizations of optical instruments. Two general methods are preferred. One is to use three reflections to redirect the specularly reflected light. The other involves the use of a Dove prism in which the original beam is first refracted to strike an ink-glass interface and the reflected beam is then redirected by a second refraction to co-

Conference Dates (*with organization names and principal officers*)

American Photo-Engravers Association — Frank J. Schreiber, Commissioner, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference — William Penn Hotel, Pittsburgh, Pa., July 19, 20 and 21, 1948. J. L. Stackhouse, Chairman, Easton, (Pa.) *Express;* Walter E. Wines, Manager, ANPA Mechanical Dept. 370 Lexington Ave., New York 17, N. Y.

Great Lakes Newspaper Mechanical Conference—Gibson Hotel, Cincinnati, January 16, 17, 18, 1949. President C. M. Kirk, Stereotype Supt., Detroit *News*; Secretary Al P. Oberg, Composing Room Supt., Flint (Mich.) *Journal.*

Illinois Newspaper Mechanical Conference—President, Earl Anderson, Supt., Rockford Consolidated Newspapers, Rockford, Ill. Secretary, Howard Colton, *Daily Pantagraph*, Bloomington, Ill.

International Association of Printing House Craftsmen—Hotel Cleveland, Cleveland, August 8, 9, 10, 11, 1948. President, A. Gordon Ruiter, Supt., Forbes Lithograph Mfg. Co., P. O. Box 513, Boston, Mass. Secretary, Pearl E. Oldt, Chamber of Commerce Bldg., 12th Floor, Cincinnati, Ohio.

International Typographic Composition Association—Hotel Nicollet, Minneapolis, Minn., September 16, 17, 18, 1948. Frank M. Sherman, Executive-Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference — Russell-Lamson Hotel, Waterloo, Ia., May 15, 16 and 17, 1948. President, Ed. C. Funk, composing room foreman, Waterloo, (Ia.) *Daily Courier;* Secretary-Treasurer, Paul Kamler, mechanical supt., Clinton (Ia.) *Herald.*

Lithographers National Association — Greenbrier Hotel, White Sulphur Springs., W. Va., July 21, 22, 23 and 24, 1948. W. Floyd Maxwell, Executive Director, 420 Lexington Ave., New York 17, N. Y.

Missouri Newspaper Mechanical Conference — President Beryl A. Troutman, *Courier-Post*, Hannibal, Mo., Secretary-Treasurer O. K. Hammitt, *Monitor-Index*, Moberly, Mo.

National Association of Litho Clubs — Washington, D. C., April 29-30, 1949. President, Albert Tucker, Sauls Lithograph Co., Washington, D. C.; Secretary William J. Stevens, 1776 Broadway, New York 19, N. Y.

National Association of Photo Lithographers — Netherland-Plaza Hotel, Cincinnati, Ohio, Sept. 15, 16, 17, 18, 1948. Walter Soderstrom, Executive Secretary, 1776 Broadway, New York 19, N. Y.

National Graphic Arts Education Association — Byron G. Culver, president; Fred J. Hartman, educational director, 719 Fifteenth St., N. W., Washington 5, D. C.

National Printing Equipment Association, Inc. — James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference — Hotel Statler, Boston, Oct. 23 and 24, 1948. President, Wm. H. Porter, Mech. Supt., New Haven (Conn.) *Register*. Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

New Jersey Press Association Mechanical Conference—1948 Conference tentatively to be held in Atlantic City, N. Y., in June. Hotel and date to be announced later. President Neal E. Dyer, Mechanical Supt., Camden (N. J.) *Courier-Post*.

Northwest Mechanical Conference—Minneapolis, Minn., February 12, 13, 14, 1949. Vernon Eck, Secretary, 3725 48th Ave. S., Minneapolis 6, Minn.

Pacific Newspaper Mechanical Conference — Fairmont Hotel, San Francisco, May 1, 2 and 3, 1948. President J. W. Fitzsimmons, San Francisco (Calif.) *Call-Bulletin;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles, *Daily News*.

PNPA Mechanical Conference — Benjamin Franklin Hotel, Philadelphia, Pa., April 9 and 10. William N. Hardy, Manager, PNPA, 209-213 Telegraph Bldg., Harrisburg, Penna. Chairman Mechanical Committee, E. O. Davies, Mechanical Supt., Harrisburg (Pa.) *Patriot* and *Evening News*.

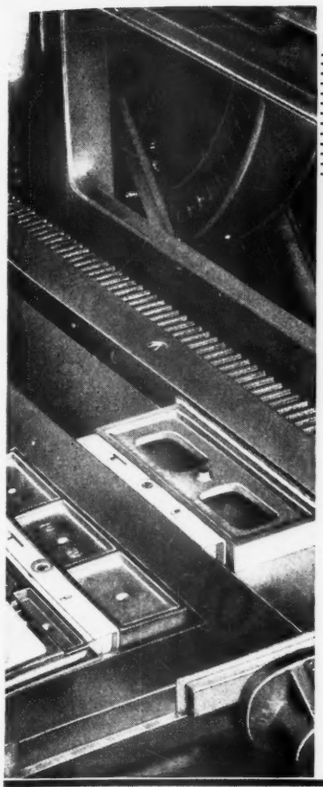
Printing Industry of America—Edgewater Beach Hotel, Wed. to Sat. inclusive, Oct. 20-23; James R. Brackett, General Manager, 719 Fifteenth St., N.W., Washington, D. C. 1949 PIA Convention — Hotel Biltmore, Los Angeles, Nov. 14-17, 1949.

SNPA (Eastern Div.) Mechanical Conference—Walter C. Johnson, Manager SNPA, P. O. Box 1569, Chattanooga 1, Tenn. Chairman Executive Committee, I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times*.

SNPA (Western Division) Mechanical Conference—Secretary, C. W. Tabb, 723 Texas Bank Bldg., Dallas, Tex.

Southwestern Photo-Engravers Association — Roosevelt Hotel, New Orleans, La., June 27, 28, 29, 1948. Executive Secretary, Virginia Nichols, 3621 Country Club Circle, Fort Worth 4, Texas.

Southwestern Graphic Arts Conference — Skirvin Hotel, Oklahoma City, Okla., April 8, 9, and 10; E. J. Deubner, Executive Secretary, 130 No. Volutsia Ave., Wichita 8, Kan.



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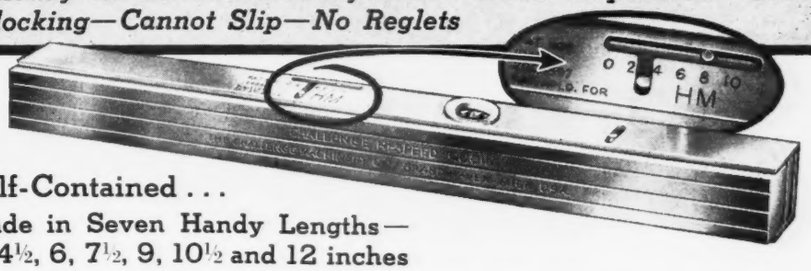

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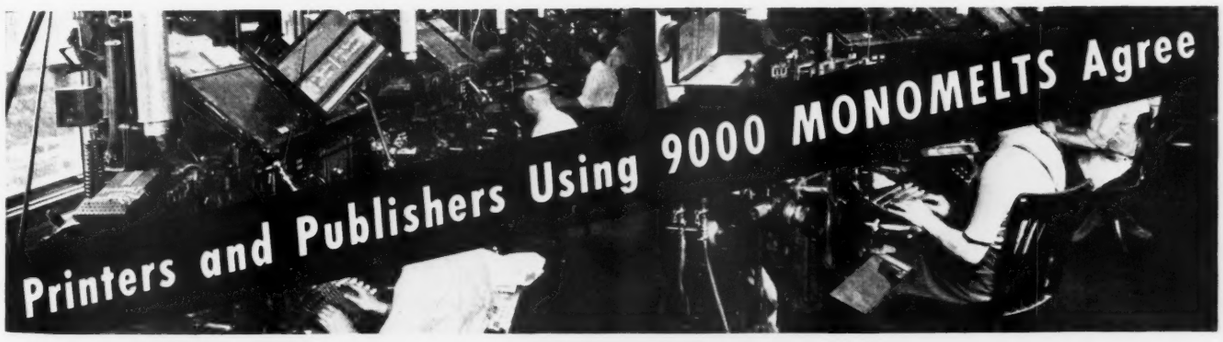

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incide with the path of the original beam. For high angles of incidence Dove prisms are preferred; for smaller angles of incidence a combination of two right angled prisms with a Porro prism forms a compact unit. It is an advantage of the invention, particularly where compact units such as a Dove prism or units using a Porro prism are involved, that ready interchangeability is possible in existing spectrophotometers. Invented by George L. Buc, Orange, N. J., and Edwin I. Stearns, Jr., North Plainfield, N. J. Assigned to American Cyanamid Company, New York, N. Y. Application August 8, 1946. 7 claims.

2,435,176. FLICKERING BEAM SPECTROPHOTOMETER, for the measurement of bronze, is another modification of or attachment for a flickering beam spectrophotometer, such as disclosed in patent 2,435,175, reported above. Whereas the modifications disclosed in patent 2,435,175 give perfect results with all of the many types of bronzes in pigments, both light and dark in shade, they are complicated, delicate, and require mountings which assure very accurate alignment. A simpler instrument is capable of giving very satisfactory bronze measurements of the more easily measured dark pigments such as alkali blue. In the present invention a surface, or target is introduced into the sample beam in the integrating sphere at a definitely predetermined angle to the beam. The inclination is at a fairly large angle in order to reflect a sufficient amount of light specularly so that bronze can be measured, i. e., not less than 15° and preferably more than 20°. The surface is covered with pigment or ink containing the bronze which is to be measured. At reasonably high angles of incidence the intensity of the bronze reflection is relatively high and, as this coincides with a portion of the spectrum in which the masstone of the pigment caused by the diffuse reflection shows a high degree of absorption, bronze measurements can be obtained with useful accuracy. Invented by George L. Buc, Orange, N. J., and Edwin I. Stearns, North Plainfield, N. J. Assigned to American Cyanamid Company, New York, N. Y. Application August 8, 1946. 6 claims.

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Plate Making

2,434,019. COLOR SEPARATION WITH FLUORESCENT MATERIALS enables clear and sharp colorprinters, and thereafter printing plates, to be obtained photographically and without the necessity of retouching to any great extent. This method of making reproductions of original compositions, e. g., pictures and maps, consists in rendering an original of the subject matter to be reproduced with a palette of a medium carrying several fluorescent agents, usually dyes. Each of the agents fluoresces with a distinctive monochromatic color under ultraviolet light. The medium of the fluorescent palette may be water color, oil, air-brush lacquer or the like. After the original is rendered it is photographed under filtered ultraviolet light. By use of direct color filters which absorb ultra-violet light reflected by the rendering and the visible colors emitted by the rendering, other than the color which the filter transmits, sharp positives of the color images register on the color printers. Mechanical printing plates are prepared by any suitable photomechanical process from the color printers, for example, a deep etch process for lithographing the reproduction. When reproductions are run from the printing plates in a color press, no "highlight scum" is produced in the reproduction because no shadow images are found in the white areas of the original. Invented by Joseph L. Switzer, Cleveland Heights, Ohio, and Robert C. Switzer, South Euclid, Ohio. Unassigned. Application March 10, 1942. 17 claims.

2,434,727. PHOTOSENSITIVE BLOOD ALBUMIN LITHOGRAPHIC SOLUTION has been found to be superior to egg albumin for the making of master lithographic or planographic plates. The solution is clear, odorless, and fungus mold resistant. In the process, powdered blood albumin is dissolved in water and filtered to remove suspended collodial matter. The filtered aqueous blood albumin solution is then deodorized by intimately stirring finely divided activated carbon into it. After the carbon has been filtered off a water-soluble dichromate is dissovled into the solution and the pH value is adjusted by adding an aqueous solution of ammonia until such pH value is 9.1. Invented by Charles H. Van Dusen, Jr., Willoughby, Ohio. Assigned to Addressograph-Multigraph Corp., Cleveland,

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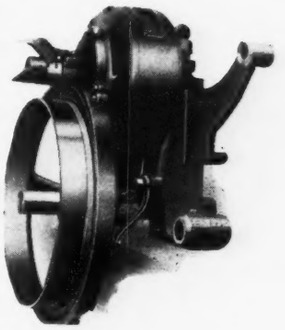

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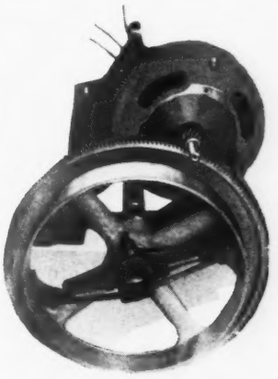

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Hopes to See Something Done

With Respect To Out-of-Balance End of Newspaper Production in Pressroom

By RICHARD LLOYD JONES, JR.*

*Vice President and Business Manager, Newspaper Printing Corp., Tulsa, Okla. Abstract of address delivered before Western Div. Southern Newspaper Mechanical Conference, Dallas, Tex., February 1948.

WHILE we in the newspaper business have faced newsprint shortages, the manufacturers have faced just as crippling steel, bearing and metal shortages. When one press manufacturer, during the Battle of the Bulge, requested from the War Production Board just enough steel to make up and experiment with a postwar press unit, this modest request was denied.

"Although the entire press manufacturing plant was working night and day turning out complete anti-aircraft guns, this company diverted a few older employees to the task of fashioning the mockup in wood, and many months of research were gained from this bit of resourcefulness and American ingenuity.

"For this resourcefulness, the newspaper people are deeply appreciative to the suppliers and they deserve untold credit for developing truly postwar machines for our needs, rather than merely getting by on pre-war engineering designs.

"One of the biggest developments to my way of thinking and one that I have seen receive practically no notice at all is mailing room equipment. Anyone who stops to think a moment must quickly realize that we can't double the speed of delivery from a pressroom to a mailing room without somehow doubling the rate of delivery from the mailing room to destination. The development in the mailing room alone, the new mechanization there, is a tremendous stride in the march of newspaper progress since the end of the war.

"I hope sometime during my lifetime to see something done in regard to what I call the out-of-balance end of newspaper production. There isn't a mechanical man here from any newspaper who doesn't get his automobile wheels balanced when he buys a car. Just how does he do this?

"Well, it's really quite simple and highly important. He knows that the tire and wheel factories don't deliver an equally balanced wheel. And he knows further that at country driving speeds of 50 and 60 miles an hour when his car wheel is out of balance a few ounces, those ounces develop into pounds, and those pounds make the wheel shimmy and the tire wear in big patches through the tread.

"So what does he do? He goes down to the garage or tire station and has the wheels removed and with the tire on and still intact they attach ounce weights and then spin it up to high driving speeds until the balance is perfect. Then they go back on the car and his trouble is eliminated.

"But in presses, and 1948 models, too, what do we do? Well, we do absolutely nothing, I'm sorry to relate, and we are dealing in pounds to start with, brother, and not ounces.

"We take a plate for a chain drug store that's blacker than midnight on one end of a cylinder, and opposite we may put a white page ad with just a few lines of type on it. With a difference of several pounds in weight to begin with, we speed this unholy conglomeration up to 35,000 and 40,000 copies per hour—and facing the problem that we have to have a 'sock' impression about equal to that of the old Franklin hand press, we let her go.

"To keep these heavy, bulky plates from flying off, press builders have developed a lockup that the biggest bank in Dallas could well investigate. That's why presses must have roller bearings forged under heat, solid steel cylinders and massive side frames so that the whole appearance takes on an effect that it was made by the Baldwin Locomotive Works."

Ohio. Application August 7, 1944. 2 claims.

Printing Inks and Related Chemicals

2,433,997. QUATERNARY AMMONIUM SULFONE HALIDES such as N-chloro N-trimethyl amino ethane sulfone chloride and phenyl benzyl dimethyl ammonium chloride are representative compounds that are claimed. These products are usable as resist agents for vat printing and other printing agents. Other applications include their use as surface active and waterproofing agents and as intermediates in the production of dyes. They are of value in the production of esters and amides and other derivatives substituted by pentavalent nitrogen which is unsubstituted by hydrogen. Invented by Adrian L. Linch, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del. Application April 24, 1944. 5 claims.

2,434,168. PENTAERYTHRITOL ROSINATE POLYMER PRINTING INK of outstanding gloss, tackfreeness and hardness, is produced from a resin made from 100 parts of gum resin and 25 parts of dipentaerythritol. The resin is light colored, brilliantly clear, exceptionally hard, and completely oil soluble. In the process to obtain the resin, the initial rosin is melted in a closed kettle equipped with an agitator. At about 200° Co. the material is mixed with the pentaerythritol. This mixture is heated and agitated in four hours to 270° C. and held at this temperature for 8 hours. Esterification proceeds quickly, without catalyst, due to the excess of the alcoholic component, and is immediately followed by alcoholysis and resinification of the thus-formed hydroxy esters. The process of resin formation is completed by continuing the heating at about 270° C. for two hours under vacuum. One hundred parts of this resin are heated with 100 parts of Z$_5$ bodied linseed oil up to 220° C. until a sample of the batch stays clear after cooling. Then 50 parts each of paraffin oil and kerosene are added, and the customary amounts of wax, lead acetate and cobalt paste are stirred in. The products are also useful in the manufacture of varnishes, enamel and other surface coatings. Invented by William Krumbhaar, New York, N. Y. Unassigned. Application April 13, 1945. 17 claims.

2,435,412. PLASTICIZED NATURAL RESIN MATERIAL comprises one or more natural resins and/or resinous derivatives such as rosin ester, kauri resin, ester gum, and an aromatic oil. The oil has an aromatic hydrocarbon content of at least 95% and boils above 210° C. Before use, the oil is physically separated from other components such as pitch by the pyrolytic decomposition of petroleum in the production of combustible gas. The products are employed in adhesives, paper and textile treating agents, special inks and in various coating and impregnating compositions. Waxes, and drying oils may be incorporated in the material, as well as lampblack and colored pigments. A companion patent, No. 2,435,411, by the same inventor, is differently classified and does not mention employment in inks. Invented

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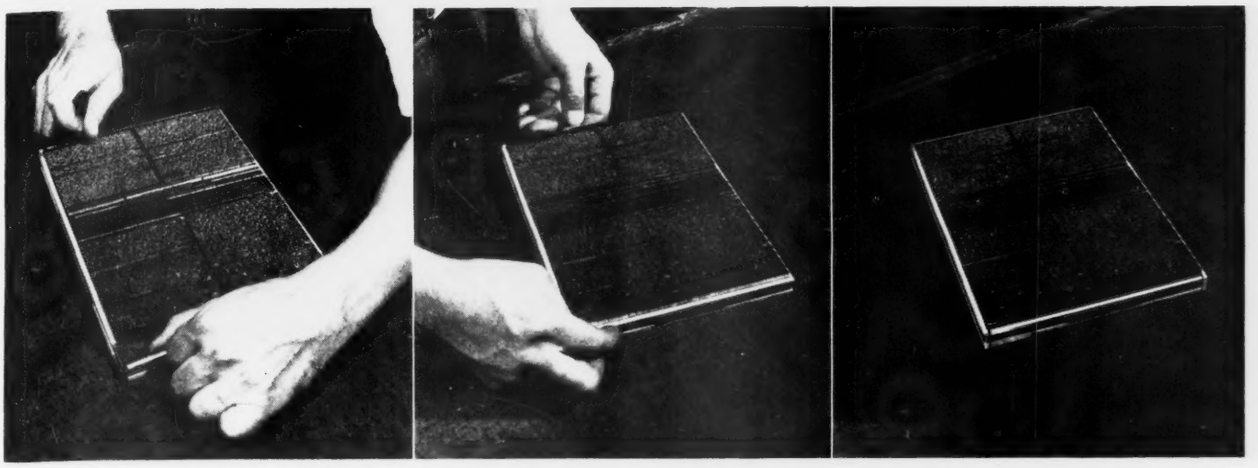

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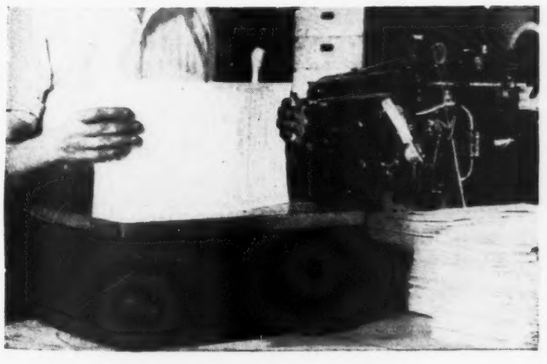

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by Frank J. Soday, Swarthmore, Pa. Assigned to The United Gas Improvement Company, Philadelphia, Pa. Application October 22, 1942. 11 claims.

Printing Presses and Equipment

2,434,624. PERFORATOR FOR A CYLINDER PRINTING PRESS having a feed table, such as a Miehle cylinder press, utilizes two parallel shafts spaced above the cylinder of the press and parallel with the cylinder. They are spaced forwardly of the forward edge of the table. The uppermost shaft is rotated with the rotation of the cylinder. A perforating disc is supported by an arm extending out from the lower of the shafts to a position towards the forward edge of the feed table and the arm and the disc are adjustable longitudinally on the shaft supporting them. The perforating disc is rotated from the upper rotative shaft by a pulley and belt arrangement. An apertured foot plate, adjustable longitudinally of the cylinder, is provided for cooperative engagement with the perforating disc. Invented by Henning E. Peterson, Duluth, Minn. Unassigned. Application May 16, 1946. 2 claims.

2,434,906. METHOD OF PLASTICIZING PROTEINS, such as casein, ossein, gelatines, zein, albumins and the like, utilizes amines, amides, amino alcohols and amino sodium sulphonates to render the protein flexible even when no water is present. The products may be used in printers' rolls as well as in transparent films or sheets and in the treatment of paper, cloth and felt. Formanilide (C_6H_5NHCHO) and formicin ($CH_3CONHCH_2OH$) are very satisfactory as protein plasticizers, especially the formanilide. A mixture of protein and formanilide is flexible when dry under ordinary atmospheric conditions. Increasing or decreasing the proportionate parts of plasticizer agents increases or decreases the flexibility of the protein proportionately. To secure the most desirable results with materials requiring a slight moisture content, an augmenting-plasticizer agent of the type of Turkey red oil may be used. The protein plasticized compositions may be rendered water insoluble by treating with acetaldehyde or other tanning agents. A relatively hard finish can be obtained with a mixture containing 67 parts protein, 28 parts formanilide, and 4 parts Turkey red oil. Compositions are stable at high temperatures. Invented by Richard Paul Carlton and Howard C. Brinker, St. Paul, Minn. Assigned to Minnesota Mining & Manufacturing Co., St. Paul, Minn. Application February 22, 1943. 15 claims.

2,435,009. SCRAPER FOR FOUNTAIN BLADES removes the accumulated thickened, dried or encrusted ink from the edge of the bottom plate or blade of an ink reservoir of certain types of printing presses without dismantling the reservoir sections or other parts of the press, thus saving time and obviating loss of production. The tool is useful also when it becomes necessary to change the ink in the reservoir from one color or grade to another color or grade. The cleaning tool is made from a curved sheet of metal. The length of the tool is approximately half the circumference of the ink roll and its arcuacy corresponds with the curvature of the ink roll. The forward edge of the tool is provided with serrations or teeth which form cutting or scraping points across the edge of the tool. The teeth are beveled at an angle to conform with the angle created between the face of the ink roll and the edge of the blade of the ink reservoir. Two openings are spaced along the longitudinal axis of the tool to form grips for the thumb and finger when the tool is being used. In practice the press operator applies the tool manually to the steel ink roll, using the finger grips, and shifts the tool longitudinally of the roll with the teeth in scraping contact with the edge of the blade of ink reservoir. One or two sweeps of the tool dislodges dried or accumulated ink. Invented by George J. Kief, Norwood, Ohio. Unassigned. Application February 5, 1946. 5 claims.

2,435,452. COLOR INKER FOR CYLINDER PRESSES is in the form of an auxiliary ink feeding mechanism usable in connection with the regular ink distributing rollers of cylinder presses, as for newspapers. The auxiliary inker may be temporarily attached to the press to deliver ink to any desired section of the ink distributing rolls and thereby to the type plate inked by the action of the rolls. It is attached when it is desired, for example, to print portions of a page in red or other color before over-printing in the usual black ink. An adjustable supporting frame is adapted to be positioned along transverse rods of the press frame and supports the inker assembly. The latter includes an ink trough, a pick-up roller within the trough, an intermediate roller above and adjacent to but not contacting the pick-up roller, and a transfer roller above and in driving connection with the intermediate roller. The rollers are preferably made of metal turned and polished to insure uniform spacing. The pick-up roller will deliver ink to the intermediate roll but is not in contact so that it may be driven in the same peripheral direction or in the opposite direction with reference to the intermediate roller. The assembly may be tilted with respect to the frame for shifting the transfer roller into driven contact with an ink distributing roller of the press. Ink delivery from pick-up roller to intermediate roller may be regulated by adjusting a flexible stripper which is deflected by thumb screws into contact with the ink pick-up roller, the latter being driven by the transfer roller in either direction desired. Invented by Albert W. Linn and Albert C. Forbes, Memphis, Tenn. Unassigned. Application May 5, 1945. 3 claims.

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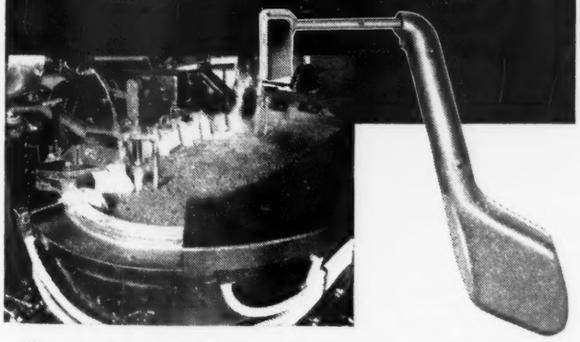

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LINDEN, NEW JERSEY

TECHNOLOGY

(Continued from Page 28)

was equipped with 12 pt. and it would take months to get one with 8 pt.

"The big problem in setting type on a typewriter is the justifying of the right-hand margin. It can be done on this machine, but it requires two typings. Tests show that the average typist can type copy about four times as fast as a Linotype operator can set it on a Linotype. This in itself would indicate that a big saving could be effected in this operation.

"There is another machine, the Justowriter, manufactured by Justowriter Corp. of Rochester. This machine gets its name from the fact that it justified the right-hand margin at one writing. The girl types it once and an electrical unit attached to the typewriter cuts a tape. This tape then is put on another electric machine and the actual copy is typed.

"Then, there is the Vari-typer. Here again copy has to be typed twice, if you are to justify the right hand margin. While the proportional spacing machine and the Justowriter have only one face of type, the Vari-typer has a variety each of which can be changed quickly. Of the three machines, the Justowriter seems to have the edge because it eliminates the second typing. On the other hand, the Vari-typer has more than one face of type.

"One thing that held us back was inability to get as many of these machines as were needed. These machines have been used to set the body type and parts of advertisements. We are using all three makes. An accurate test cannot be made of this process until the proper machines in sufficient numbers are available.

"Setting heads and display advertisements cannot be done on these typewriters. Here, as you know, we must have display type of different style and size. We have been using Foto-Type letters. The job can be done with Foto-Type, but it is slow and very expensive, so a headsetting and display machine must be perfected. We are now working on a machine which we hope will solve this problem. We hope to have a working model soon so we can test it out in actual use.

"Step No. 2.—Pasting up copy. This sounds simple and relatively unimportant, but really it is one of the most important parts of this process. Great care must be taken to paste up copy in correct position and keep it perfectly lined up. Great care must be taken to keep the copy clean. The tiniest spot or even a dot will be picked up by the camera. Of course, these spots could be taken out by using a router but the idea is to eliminate every step possible. So, keep the copy clean. No router, no saw. This pasted-up copy when it is sent to the engraving department is exactly the way it will look on the finished plate.

"Step No. 3.—Engraving. The first step, namely photographing the copy, would be easy if the page had no halftones in it. Different steps are taken so that we end up with a complete plate in one piece. I can't tell you just how this is done. The engraving is really where the bottleneck is. As most of you know, it takes about 45 min. to powder and engrave a page-size plate. The most time is consumed with the powdering. This time element is important in daily newspaper production both from the standpoint of meeting deadlines and from costs.

"Something must be done to speed up the engraving. Here again we are working on a unit which shows promise of speeding the engraving process up to the point where a plate could be turned out every 5 min. If this can be done it will just about solve the problem of meeting deadlines on dailies and at the same time cut the cost materially.

"Step No. 4.—Curving the plate and fitting to the cylinder. First, we must have a curved base so that when this magnesium plate is placed upon it, it will be of the same thickness as the present stereotype plate. The base we use is also made of magnesium. This base is very light and with the plate attached weighs less than 10 lbs. as compared with 46 lbs. of the stereotype plate.

"New presses could be designed to eliminate this step. The curving of the

(Continued on Page 61)

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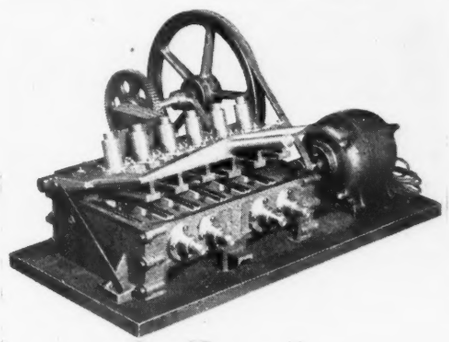

SOFNAS SPACEBAND CLEANING MACHINE

- **Cleans entire length of spaceband.**
- **Saves energy and the matrices.**
- **The ease made possible encourages cleaning spacebands as often as standard practice requires.**
- **Cleans six spacebands at a time thoroughly and safely by the undisputed principle employed in the hand method, with the added advantage of mechanical uniformity.**

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Foresight, singleness of purpose and the indomitable pursuit of an ideal gave impetus to America's pioneers. Wood pioneered America's first dry mat. Today, with modern equipment and careful supervision Wood makes a mat for those who can afford the finest.

Sample Mats Sent Free Upon Request

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TYPE METAL REMELTING FURNACES

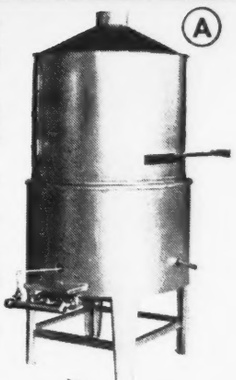
(A) 'Surface' Type Metal Remelting Furnace equipped with Atmospheric Burner and hood. Available in capacities up to 2500 pounds of metal.

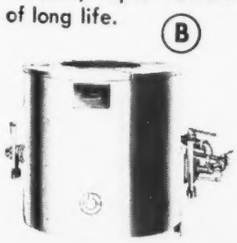
(B) 'Surface' Type Metal Remelting Furnace equipped with Pressure Burner. Available in capacities up to 3200 pounds of metal.

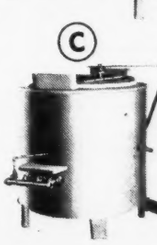
(C) Furnace equipped with atmospheric burner and bottom outlet.

(All types can be equipped with hood)

'Surface' Gas-Fired Furnaces for type metal remelting are designed to provide the industry with an efficient, rapid remelting furnace of long life.







WRITE FOR BULLETIN SC-130

2634A

'Surface' *Standard Rated* FURNACES

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO

IMPROVE NEWSPAPER PRINTING PRODUCTION

WITH **TRU-MOLD Cork Molding Blanket**

Perfect density is achieved in TRU-MOLD by compounding with an exact amount special binder. Flexible to minimize cracking on the edges Available in Medium, Medium-Hard and Hard densities.

WITH **FLECTO Gummed Backing Belt**

Regardless of the heat used in scorching, the special fast-binding adhesive makes FLECTO suitable for any make of dry mat. Felt is accurately gauged . uniform . . . clean-tearing . . . and porous to permit easy steam escape, necessary on high shrinkage mats. Bonded to prevent separation into layers. FLECTO **conforms to the mat and shrinks with it.**

WITH **PLATE-TAK***

Super-Thinness prevents bumping effect on halftone screens. PLATE-TAK is thinner, faster, cleaner . . . eliminates tacks, cements and glues. Unequalled for mounting or positioning any type of cut on either wood or metal base, and superior on the proof-press, layout table and for preparing forms for the Stereotype Department.

PLACE YOUR ORDER TODAY!

* *T. M. Reg. U. S. Pat. Off.*

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WORLD'S LARGEST MANUFACTURER OF NEWSPAPER INKS

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Mandatory First Aid

A recent Texas Law requires all school bus drivers to have Red Cross Standard and Advanced First Aid training. Numerous communities and states have laws requiring such training also for firemen and policemen.

Rapid's Annual Meeting

Business prospects for the Graphic Arts industries were analyzed by executives attending the three-day annual meeting of the Rapid Roller Co. at Chicago's Stevens Hotel the week of January 12. Heads of administrative, technical and sales activities attended. The consensus was that recent expansion in Rapid Roller production facilities was well justified by indices available for forecasting of business.

D. M. Rapport, President, commented on the sales impetus which could be expected to result from technical improvements in the concern's products and production methods. "During 1948, our laboratory discoveries and our new production methods, developed during the war, will be available for use in manufacturing for the Graphic Arts. The outlook for printers and lithographers seems good, so that an active market should be available.

WISE Buys

1 Model 8 Linotype, 3 magazines, 3 molds, AC motor, completely re-conditioned, guaranteed.

25 x 38 Premier Cylinder Press, rebuilt.

90-Channel Linotype Magazines, New.

Monotype Caster, strip material attachment, 3 new adjustable molds, casts up to 36 pt. inclusive, factory re-built.

2 Kelly Automatic Jobbers, one with extension delivery, re-conditioned.

38" Acme Power Paper Cutter.

International Time Clock for 100 employees.

24, 30 and 48 Pt. VOGUE BOLD COND. Caps and lc, for 72-Channel, New.

50 fonts, slightly used mats. Ask for mat list.

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Printing Machinery & Supplies

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100% AUTOMATIC SLUG SAWING

Odd measure slugs sawed to any measure as ejected from line-casting machine. Fast-accurate-economical.

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MOHR LINO-SAW CO.
128 N. Union St. Chicago

RICHARDS *Since 1900*

KALAMAZOO, 13F

Saw-Trimmers, Flat and Curved Plate Routers, Stereotype Saws and Mortisers, Steel Rule Dies.

The most complete line built. See our page ad July issue or ask for catalog.

For Fast . . . Safe . . . Accurate

SAW-TRIMMING

Choose the

NOLAN *"Chief"*

Speedy operation and accurate results are assured when you use this ruggedly designed saw-trimmer. You save time and money. Investigate the advantage of the Nolan "Chief" Saw-Trimmer today.

NOLAN CORPORATION
1331 East Dominick St.
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Manufacturers of Finest Quality Printing Equipment

SHOOTING AIR

TORNADO

1⅓ H.P. Electric Blower

CLEANS SAFELY interiors of motors and other intricate machinery with a powerful *320 m.p.h. air steam* of pure, dry concentrated air from any electric outlet.

MOST POWERFUL portable electric blower available. Acts instantly to sweep away dirt, dust, lint, fuzz from motors, bearings, gears, and moving equipment. Keeps mechanisms smooth-running-free from friction.

WRITE FOR LITERATURE or FREE DEMONSTRATION

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CLASSIFIED ADS ALL CLASSIFICATIONS

$.75 per line 1.9/16" wide. Minimum ad 5 lines, 25 characters per line. Cash with order.

CLOSING DATE—15th of Month preceeding Date of Issue.

We will forward all mail addressed to Box Numbers. When answering Box Numbered ads, address as follows: Box Number . . . PRINTING EQUIPMENT Engineer, 1276 West 3rd Street, Cleveland 13, Ohio.

FOR SALE—RUBBER MOLDING PRESS

Precision rubber plate machine, 18"x18" capacity, used for molding rubber and plastic plates.—Alfred Allen Watts Co., Inc. 740 Washington Ave., Belleville 9, N. J.

FOR SALE

2-Rev. Miehle Press	$1250
Double Truck	$ 25
1 Roll Tympan Paper	$ 10

News - Journal Corporation, Daytona Beach, Florida.

Publication and Commercial Printing firm controlling interest for sale in reputable and well established business. Substantial volume and profit. Good equipment, reliable personnel in South's leading industrial city. Selling because of other interests. $38,000 will handle. Write Box 301, *Printing Equipment Engineer.*

WANTED: Job compositor. Goss stereotype press knowledge would help. Two weeks vacation with pay after first year. Write or wire Fostoria Daily Review-Times, Fostoria, Ohio.

FOR SALE: Webendorfer Collator - seven part, which will collate 7 rolls of paper with 6 rolls of carbon. Reply Box 299.

MOTOR: 20 h.p. GE induction, slip ring, includes grids. Type M.T. 326 220 volt, 3 phase, 60 cycle, 50.5 amperes. Speed full load 860 R.P.M. Cleveland Shopping News, 5309 Hamilton Avenue, Cleveland 14, Ohio, HEnderson 4444.

FOR SALE—STANDARD AUTOPLATE SHAVER

22 3/4 cut off, immediate delivery, reasonable price. Houston Awalt, Express Publishing Company, San Antonio, Texas.

SALESMAN WANTED

Leading printing machinery manufacturer offers excellent opportunity for man in select territory. Salary and commission arrangement. Printing background helpful but not essential. Write details and include photo in first letter. Reply Box 300, *Printing Equipment Engineer.*

WANTED: Make-up man. 8 to 16 page daily newspaper, stereotype press. 40 hour week with over time pay, two weeks with paid vacation after first year. Aetna Insurance, good town, fine schools and churches. Middle-aged married man with or without children. Linotype experience not needed, but could use. Can get house. Write or wire Fostoria Daily Review-Times, Fostoria, Ohio.

THE WALTER W. MEZO COMPANY

Used Rotary Newspaper and Flat Bed Web Perfecting Presses, Magazine, Color, Gravure Presses and Auxiliary Equipment

Manufacturers' Agents for

New Equipment—Directomat, Chases, Form Tables, Saws, Routers, Casting Boxes, Furnaces, Composing Room Equipment, Monomelts, Stereotype Supplies, Ink Handling Equipment, Hydraulic Paper Cutters.

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FOR LINOTYPE AND INTERTYPE

Also New and Used Motor Drives

Order from

William Reid Co., 2271 Clybourn, Chicago 14, Ill.

Why the cow jumped over the moon—
they did not have a new Reid milking machine.

SAFETY·RELIABILITY·ECONOMY

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PRESS DRIVES and CONTROL Reels, Tensions and Pasters...

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CLINE ELEC. MFG. CO.

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Since 1936 — *For Mounting* — Since 1936

CUTS...STEREOTYPES...ELECTROTYPES

65c per tube-$5.50 per doz. $5.00 per doz. in two doz. lots, $4.50 per doz. in gross lots.

★ **STAR CEMENT COMPANY** ★
45 Malone Avenue, BELLEVILLE 9, N. J.

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ANALINE • WEB-DRYING-APPARATUS

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Mitering machines · Composing sticks · Slug clippers · Band saws · Lead and rule cutters · Newspaper bases, files and racks.

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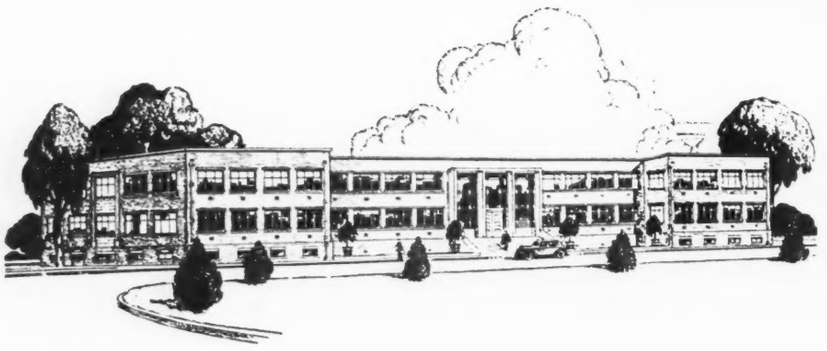

Printing Research Progress in England

THIRTY items of research, covering many problems relating to binding, electrotyping, ink, letterpress, offset-lith and gravure printing, newspaper production, paper, process engraving and stereotyping, form the program announced by the British Printing, Packaging and Allied Trades Research Association.

Progress will be expedited when the Research Association moves from the restricted, temporary accommodation in which it has worked in London since its laboratories and equipment were destroyed in an air raid during the war, to its £100,000 research center nearing completion at Leatherhead, in Surrey.

Finances of the Research Association are derived in part from subscriptions of member firms, in part from an annual grant of the British Government's Department of Scientific and Industrial Research (based on the total amount subscribed by members of Patra). For 1946-47 member firms subscribed £24,100 and the Government £12,100. This total of £36,200 compares well with the £22,800 (including £8,000 from the Government) in 1945-46.

There will be considerable extension of the Research Association's facilities when the two-story, steel-framed new building is completed and equipped. With a floor area of some 25,000 sq. ft. Patra's research centre will contain the extensive technical library, and the following laboratories: technological; constant humidity; permeability; paper; rheology; optics, electro-chemistry, surface chemistry; two on general research; analytical, photographic, microscopy and mycological; a special investigations laboratory; and two variable temperature and humidity laboratories where every kind of climatic condition will be reproducible.

The British Printing, Packaging and Allied Trades Research Association is in the eighteenth year of its existence.

TECHNOLOGY

(Continued from Page 60)

plate was difficult in the beginning but we now use a machine which has been used for many years by tinsmiths. This has not been entirely satisfactory.

"Just before leaving New York I was informed that we now have a hydraulic press designed to do this job.

"When curved, the plate is placed on the base and held there by Scotch tape. We found that Scotch tape is too expensive and we are now experimenting with an adhesive which will be less expensive. We also have a collapsible base designed so that each end of the plate can be attached to the collapsible base and when the base is pushed back in its original form, it will stretch the plate in place. No glue or Scotch tape then will be necessary. This will save time.

"If you have followed me, you will readily see that this process tends to by-pass the present-day composing and stereotyping rooms in the production of newspapers. If this can be done, three things will be accomplished:

"1—Better printing qualities because of printing direct from the original.

"2—Lower costs in the production of the newspaper because of faster typesetting and the elimination of rolling mats, casting and finishing plates, etc.

"3—Less capital invested in equipment. This can be important to every newspaper in the future. Those typewriters cost about $600 each.

"Now, how far along the road have we gotten? We are now using the process to publish two weekly newspapers.

"By experimenting with weeklies we have been handicapped because it is difficult to keep a steady flow of copy so as to keep the typist and layout people busy. This is necessary if you are to curtail the cost. It is all set up on the assembly line basis. It would be easier to schedule copy and other work on a daily. To date we have proved one point, namely, printing qualities of both line cuts and halftones.

"We have not been able to produce a page at a lower cost than with present-day methods. We expect, however, that if the engraving time is reduced and the headsetting machine is perfected, and improvements made on present typewriter machines, the costs can be reduced considerably below present-day costs."

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ALCOA

FOR immediate delivery—sturdy, light-weight, rust-proof galleys. Racks of durable Alcoa Aluminum! 65% lighter than conventional units, the rack and 100 galleys *weighs only 126 lbs!* And low cost too! Compare our prices. Every rack and galley is fully guaranteed to give you complete satisfaction.

CHECK THESE FEATURES

- √ Standard thickness (.051 gauge) for proofing
- √ Low enough for tie-up
- √ Square sides for make-up
- √ Grooved sides, spot welded corners for rigidity
- √ Strong as steel—⅓ lighter
- √ Rust-Proof—Beveled Edge

PRICED FOR IMMEDIATE DELIVERY

GALLEYS				RACKS
SIZE	*In lots of 50*	100	500	100 CAPACITY
8¾" x 13"	55c ea.	49c ea.	45c ea.	$49.00
10" x 16"	69c ea.	65c ea.	60c ea.	65.00
12" x 18"	79c ea.	75c ea.	70c ea.	69.00
8½" x 23½"	79c ea.	75c ea.	70c ea.	69.00
6¼" x 23½"	69c ea.	65c ea.	60c ea.	65.00
3½" x 23½"	65c ea.	60c ea.	57c ea.	

In lots less than 50: Add 5c each.

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1959 EAST JEFFERSON AVENUE • DETROIT 7, MICHIGAN

The production of an all 'round good printing job hinges on this fifth essential:

GOOD STOCK
GOOD TYPE
GOOD MAKE-UP
GOOD CRAFTSMANSHIP
GOOD INK

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BALTIMORE • KANSAS CITY • PITTSBURGH
CLEVELAND • DETROIT
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QUICK-CHANGE ARTIST

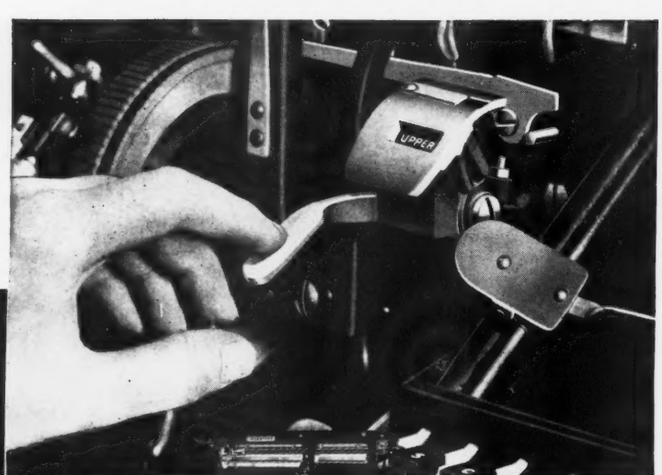
in the composing room

The Intertype Mixer can change from loud display to "get-down-to-business" text in seconds. There's no waiting for matrices to find their way home when mixing between two magazines. *Continuous distribution* saves time... increases production.

The Intertype finger-flip shift provides immediate mixing up to four different type faces of matrices in adjacent magazines... and with the Autoshift, one of many Intertype Firsts, magazine shifts are made quickly... easily.

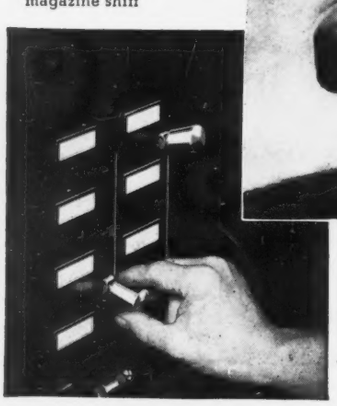
There's no time lost setting mixed composition... yet a wide variety of faces are accessible. As many as six different faces can be set in the same line on a Model F-s.m. machine. On the Model G, faces up to normal-width 30 point—and larger with side magazines—are available to the operator.

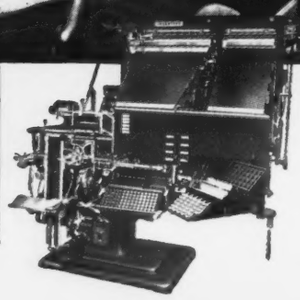
For maximum mixer advantages with minimum production time...



MIXER SHIFT LEVER... works with finger-tip pressure

AUTOSHIFT... the no-turn automatic electric magazine shift





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